

# Appendix I

## **Transportation, Air Quality/ Greenhouse Gas Emissions, and Noise Analyses of the Transfer of Nonresidential Uses from HPS2 to CP**





April 5, 2018

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**Subject: DRAFT Supplement to Candlestick Point/Hunters Point Shipyard Phase II  
Redevelopment Plan Project EIR Addendum 5 – Transportation Assessment:  
R&D Relocation**

Dear Jose and Joy:

As you know, the *Candlestick Point/Hunters Point Shipyard Phase II Redevelopment Plan Final EIR* (herein referred to simply as “EIR”) was certified by the San Francisco Planning Commission and the San Francisco Redevelopment Commission in June 2010. The EIR analyzed the originally-proposed project (as described in Chapter II of the FEIR, hereinafter referred to as “FEIR Project”), several variants (as described in Chapter IV of the FEIR), and several alternatives (as described in Chapter VI of the FEIR). Since then, a number of refinements have been proposed to the FEIR Project through a series of addenda. Most recently, Addendum 4, which proposed modifications to the CP Design for Development, land use program, and transportation system changes was approved in 2016.

Currently, the Project team is preparing Addendum 5, which proposes some modifications to the Candlestick Point and at Hunters Point Shipyard (herein referred to as “CP” and “HPS,” respectively) land use program, a revised transportation network and modified construction/phasing schedule at the Hunters Point Shipyard site. Fehr & Peers has completed analysis addressing the modified land use program and transportation network, which is described in a letter to OCII, dated April 4, 2018.

It is our understanding that the proposed modifications to the Project included in Addendum 5 allow for the flexibility to relocate up to 118,500 square feet of R&D/office uses from HPS to CP. Moving these uses across the site would increase trip generation in CP and reduce trip generation in HPS, compared to 2018 Modified Project Variant, as illustrated in **Table 1**.



**TABLE 1: VEHICLE TRIP GENERATION COMPARISON WITH R&D RELOCATION**

| Peak Hour / Site |              | FEIR Variant 1 (R&D) | 2018 Modified Project Variant | Difference from FEIR Variant 1 (R&D) to 2018 Modified Project Variant | 2018 Modified Project Variant With Relocation of 118.5 ksf of R&D/Office from HPS to CP | Difference from FEIR Variant 1 (R&D) to 2018 Modified Project Variant with R&D/Office Relocation | Difference from 2018 Modified Project Variant to 2018 Modified Project Variant with R&D/Office Relocation |
|------------------|--------------|----------------------|-------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| AM Peak Hour     | CP           | 2,310                | 2,264                         | -46                                                                   | 2,331                                                                                   | +21                                                                                              | +67                                                                                                       |
|                  | HP           | 3,065                | 3,212                         | +147                                                                  | 3,169                                                                                   | +104                                                                                             | -43                                                                                                       |
|                  | <b>Total</b> | <b>5,375</b>         | <b>5,476</b>                  | <b>+101<sup>1</sup></b>                                               | <b>5,500</b>                                                                            | <b>+125<sup>1</sup></b>                                                                          | <b>+24</b>                                                                                                |
| PM Peak Hour     | CP           | 4,913                | 4,882                         | -31                                                                   | 4,970                                                                                   | +57                                                                                              | +88                                                                                                       |
|                  | HP           | 3,134                | 3,644                         | +510                                                                  | 3,614                                                                                   | +480                                                                                             | -30                                                                                                       |
|                  | <b>Total</b> | <b>8,047</b>         | <b>8,526</b>                  | <b>+479<sup>1</sup></b>                                               | <b>8,584</b>                                                                            | <b>+537<sup>1</sup></b>                                                                          | <b>+58</b>                                                                                                |

Notes:

- Increases in trips associated with the Modified Project include approximately 100 AM peak hour and 200 PM peak hour vehicle trips for 172 dwelling units and 71 ksf of retail space. These new trips would not affect the total amount of traffic in the area at Project buildout because they correspond to the number of units and commercial square footage approved but not built, and no longer planned to be built, as part of the adjacent HPS Phase 1 project; however, they do represent an increase in the number of trips that are considered a part of the Modified Project. Thus, although the Modified Project's contribution in traffic is expected to increase by approximately 100 to 480 vehicle trips in the AM and PM peak hours, respectively, the total traffic volume in the area is expected to be nearly identical to the FEIR in the AM peak hour and increase by approximately 280 trips in the PM peak hour, since the other vehicle trips were previously accounted for as part of Phase 1.



As shown, with the R&D/Office relocation, the CPHPS project would generate approximately 130 and 540 more trips in the AM and PM peak hour respectively, compared to FEIR Variant 1 (R&D). Compared to the 2018 Modified Project Variant, the relocation would decrease trips in HPS by 43 and increase trips in CP by 67 in the AM peak hour. In the PM peak hour, the relocation would decrease trips in HPS by 30 and increase trips in CP by 88.

Below is a discussion of the effects of the proposed changes on the impacts identified in the EIR.

### IMPACT TR-1: ON-SITE AND OFF-SITE CONSTRUCTION IMPACTS

The relocation of R&D/Office from HPS to CP may result in a slight increase in construction activity in CP and a slight decrease in construction activity in HP; however, the amount of overall construction anticipated as part of the Modified Project is expected to be the same. Therefore, the relocation of R&D/Office from HPS to CP would not affect the conclusions of the analysis for the 2018 Modified Project and there would not be new or substantially more severe significant construction impacts.

### IMPACTS TR-2 THROUGH TR-16: TRAFFIC IMPACTS TO REGIONAL AND LOCAL ROADWAY SYSTEM, STUDY INTERSECTIONS, AND FREEWAY FACILITIES

Consistent with the analysis completed for the 2018 Modified Project Variant summarized in Addendum 5, the 11 intersections closest to the project site were evaluated for conditions with the R&D/Office relocation. Analysis results, in terms of LOS, delay, and v/c ratios are presented in **Table 2**, below. As shown, the R&D/Office relocation results in little to no change compared to the 2018 Modified Project Variant. Intersections operating at LOS D or better, would continue to operate at LOS D or better and would not deteriorate to LOS E or F. Additionally, intersections operating at LOS E would continue to operate at LOS E. Since delay calculations are unreliable in over-capacity (i.e., LOS F) conditions using isolated intersection analysis, v/c ratios are included for those intersections operating at LOS F (greater than 80 seconds of delay). Most of the v/c ratios remain the same or are reduced when compared to the 2018 Modified Project Variant. One exception is the Gilman Avenue/Third Street intersection. The Gilman Avenue/Third Street intersection results in a v/c increase of 0.1 during the AM peak hour and 0.16 during the PM peak hour when compared to the 2018 Modified Project Variant; however, the intersection's v/c ratio is less than the v/c ratio reported under FEIR Variant 1 (R&D), and therefore, the 2018 Modified Project Variant either with or without the R&D/office relocation would result in better operations at this intersection than



analyzed in the FEIR. Therefore, since the R&D/Office relocation results in about the same or better operations than the Modified Project or Variant 1 results, the relocation is not expected to generate any new impacts than those reported in the FEIR.

Of the 11 intersections, 2 included mitigation measures in the FEIR specific to FEIR Variant 1 (R&D): Crisp Road/Palou Avenue and Innes Avenue/Earl Street. As part of the 2018 Modified Project Variant analysis, some refinements to the mitigation measures at the Crisp/Palou intersection were identified. The mitigation measure at Innes Avenue/Earl Street from the FEIR was not changed as part of the 2018 Modified Project Variant analysis. The revised mitigation measure at Crisp Road/Palou Avenue and the original mitigation measure at Innes Avenue/Earl Street would continue to be required under conditions with the R&D/Office relocation. Results are presented in **Table 3**. As shown, with mitigations, the intersections will continue to operate at an acceptable LOS under conditions with the 2018 Modified Project Variant, either with or without the transfer of R&D/office from HPS to CP.

Therefore, because travel demand would be similar to that identified for the 2018 Modified Project Variant, there would be no changes to auto capacity associated with project refinements that result in additional or more severe significant impacts, and intersection LOS would be similar to that identified for the 2018 Modified Project Variant in Addendum 5. Thus, the R&D/Office Relocation would have similar impact conclusions for Impacts TR-2 through TR-16 and the FEIR mitigation measures plus refinements documented in the April 4, 2018 letter, will continue to apply.



TABLE 2: INTERSECTION OPERATIONS

| Intersection <sup>1</sup>                   | FEIR Variant 1 (R&D) <sup>2,3,4</sup> |      |                             |      | 2018 Modified Project Variant <sup>2,3</sup> |      |                |      | 2018 Modified Project Variant with 118.5 ksf of R&D/Office Relocated from HP to CP |      |                |      |
|---------------------------------------------|---------------------------------------|------|-----------------------------|------|----------------------------------------------|------|----------------|------|------------------------------------------------------------------------------------|------|----------------|------|
|                                             | AM Peak Hour                          |      | PM Peak Hour                |      | AM Peak Hour                                 |      | PM Peak Hour   |      | AM Peak Hour                                                                       |      | PM Peak Hour   |      |
|                                             | Delay / LOS                           | V/C  | Delay / LOS                 | V/C  | Delay / LOS                                  | V/C  | Delay / LOS    | V/C  | Delay / LOS                                                                        | V/C  | Delay / LOS    | V/C  |
| #4 – Evans / Third                          | >80 / F                               | 1.59 | >80 / F                     | 1.59 | >80 / F                                      | 1.59 | >80 / F        | 1.65 | >80 / F                                                                            | 1.58 | >80 / F        | 1.65 |
| #6 – Palou / Third                          | >80 / F                               | 2.22 | >80 / F                     | 5.97 | >80 / F                                      | 2.47 | >80 / F        | 6.65 | > 80 / F                                                                           | 2.47 | >80 / F        | 6.64 |
| #9 – Gilman / Third <sup>5</sup>            | >80 / F                               | 2.02 | >80 / F                     | 3.40 | >80 / F                                      | 1.63 | >80 / F        | 2.94 | >80 / F                                                                            | 1.64 | >80 / F        | 3.10 |
| #29 – Harney / Arelious Walker              | 25 / C                                | --   | 53 / D                      | --   | 22 / C                                       | --   | 36 / D         | --   | 22 / C                                                                             | --   | 38 / D         | --   |
| #30 – Crisp / Palou                         | >80 / F                               | 1.12 | >80 / F                     | 1.18 | >80 / F                                      | 1.12 | >80 / F        | 1.21 | >80 / F                                                                            | 1.11 | >80 / F        | 1.20 |
| #34 – Arelious Walker / Gilman <sup>5</sup> | 30 / C                                | --   | 38 / D                      | --   | 36 / D                                       | --   | 52 / D         | --   | 37 / D                                                                             | --   | 54 / D         | --   |
| #46 – Innes Ave / Fitch                     | 5 / A                                 | --   | 6 / A                       | --   | 5 / A                                        | --   | 6 / A          | --   | 5 / A                                                                              | --   | 6 / A          | --   |
| #47 – Innes Ave / Earl                      | 1 (21) / A (C) <sup>5</sup>           | --   | 3 (63) / A (F) <sup>6</sup> | --   | 1 (24) / A (C)                               | --   | 4 (77) / A (F) | --   | 1 (23) / A (C)                                                                     | --   | 4 (73) / A (F) | --   |
| #48 – Middle Point / Evans / Jennings       | 61 / E                                | 1.17 | 43 / D                      | --   | 64 / E                                       | 1.15 | 30 / C         | --   | 62 / E                                                                             | 1.14 | 30 / C         | --   |
| #54 – Ingalls / Palou                       | 23 / C                                | --   | 33 / C                      | --   | 22 / C                                       | --   | 37 / D         | --   | 22 / C                                                                             | --   | 36 / D         | --   |
| #55 – Keith / Palou                         | 9 / A                                 | --   | 8 / A                       | --   | 9 / A                                        | --   | 8 / A          | --   | 9 / A                                                                              | --   | 8 / A          | --   |

Notes:

- Intersection numbers are based on EIR intersection numbering for reference and comparison purposes.
- Delay in seconds per vehicle. For side-street stop controlled intersections, delay and LOS presented for the worst approach and indicated in parenthesis. For intersections operating at LOS F, delay calculations are not relevant, based on the HCM methodology, and therefore, delay is simply reported as greater than 80 seconds per vehicle. To allow for comparison in operating conditions at intersections operating at LOS F, the volume to capacity ratio (V/C) is also shown.
- Intersections operating at LOS E or F shown in **bold**.
- Refer to Tables 45 and 46, on pp. 167-172 of the Project's Transportation Impact Study, included as Appendix D to the FEIR, for LOS results for FEIR Variant 1 (R&D).
- The analysis of conditions with the Modified Project at Gilman / Third and Gilman / Arelious Walker was performed using a more detailed and sophisticated software, the Synchro platform, than what was used in the FEIR in order to capture unique features of those intersections. Analysis of Modified Project conditions at Gilman / Third also reflects updated lane configurations established by SFMTA subsequent to publication of the EIR.
- The EIR-reported calculation of LOS for the intersection of Innes Avenue / Earl Street in Table 46 on pp. 170-172 in the Transportation Impact Study included a typographical error. The error did not affect the conclusion of the EIR with respect to significant impacts. The correct LOS is included here.



TABLE 3: INTERSECTION OPERATIONS WITH MITIGATION

| Intersection <sup>1</sup> | 2018 Modified Project Variant <sup>2,3</sup> |      |                             |      | 2018 Modified Project Variant With Mitigation <sup>2,3</sup> |      |               |      | 2018 Modified Project Variant with 118.5 ksf of R&D/Office Relocated from HP to CP <sup>2,3</sup> |      |                |      | 2018 Modified Project Variant with 118.5 ksf of R&D/Office Relocated from HP to CP With Mitigation <sup>2,3</sup> |      |               |      |
|---------------------------|----------------------------------------------|------|-----------------------------|------|--------------------------------------------------------------|------|---------------|------|---------------------------------------------------------------------------------------------------|------|----------------|------|-------------------------------------------------------------------------------------------------------------------|------|---------------|------|
|                           | AM Peak Hour                                 |      | PM Peak Hour                |      | AM Peak Hour                                                 |      | PM Peak Hour  |      | AM Peak Hour                                                                                      |      | PM Peak Hour   |      | AM Peak Hour                                                                                                      |      | PM Peak Hour  |      |
|                           | Delay/<br>LOS                                | V/C  | Delay/<br>LOS               | V/C  | Delay/<br>LOS                                                | V/C  | Delay/<br>LOS | V/C  | Delay/<br>LOS                                                                                     | V/C  | Delay/<br>LOS  | V/C  | Delay/<br>LOS                                                                                                     | V/C  | Delay/<br>LOS | V/C  |
| #30 – Crisp / Palou       | >80 / F                                      | 1.12 | >80 / F                     | 1.21 | 33 / C                                                       | 0.86 | 36 / D        | 0.85 | >80 / F                                                                                           | 1.11 | >80 / F        | 1.20 | 32 / C                                                                                                            | 0.84 | 34 / C        | 0.82 |
| #47 – Innes Ave / Earl    | 1 (24) / A (C) <sup>4</sup>                  | --   | 4 (77) / A (F) <sup>4</sup> | --   | 18 / B                                                       | --   | 21 / C        | --   | 1 (23) / A (C)                                                                                    | --   | 4 (73) / A (F) | --   | 17 / B                                                                                                            | --   | 20 / C        | --   |

Notes:

1. Intersection numbers are based on EIR intersection numbering for reference and comparison purposes.
2. Delay in seconds per vehicle. For side-street stop controlled intersections, delay and LOS presented for the worst approach and indicated in parenthesis. For intersections operating at LOS F, delay calculations are not relevant, based on the HCM methodology, and therefore, delay is simply reported as greater than 80 seconds per vehicle. To allow for comparison in operating conditions at intersections operating at LOS F, the volume to capacity ratio (V/C) is also shown.
3. Intersections operating at LOS E or F shown in **bold**.
4. The EIR-reported calculation of LOS for the intersection of Innes Avenue / Earl Street in Table 46 on pp. 170-172 in the Transportation Impact Study included a typographical error. The error did not affect the conclusion of the EIR with respect to significant impacts. The correct LOS is included here.





## IMPACTS TR-17 THROUGH TR-30: IMPACTS TO LOCAL AND REGIONAL TRANSIT OPERATIONS AND CAPACITY

Transit demand calculations were calculated for the R&D/Office relocation and are shown in **Table 4**. The Modified Project transit demand calculations are included for comparison purposes.

| TABLE 4: FEIR VARIANT 1 (R&D) AND 2018 MODIFIED PROJECT VARIANT TRANSIT TRIP GENERATION |              |                               |              |              |                                                          |              |              |                                               |            |           |
|-----------------------------------------------------------------------------------------|--------------|-------------------------------|--------------|--------------|----------------------------------------------------------|--------------|--------------|-----------------------------------------------|------------|-----------|
| Peak Hour / Direction                                                                   |              | 2018 Modified Project Variant |              |              | 2018 Modified Project Variant with R&D/Office Relocation |              |              | Difference from 2018 Modified Project Variant |            |           |
|                                                                                         |              | CP                            | HP           | Total        | CP                                                       | HP           | Total        | CP                                            | HP         | Total     |
| AM Peak Hour                                                                            | Inbound      | 300                           | 863          | 1,163        | 327                                                      | 847          | 1,174        | 27                                            | -16        | 11        |
|                                                                                         | Outbound     | 642                           | 513          | 1,155        | 643                                                      | 510          | 1,153        | 1                                             | -3         | -2        |
|                                                                                         | <b>Total</b> | <b>942</b>                    | <b>1,376</b> | <b>2,318</b> | <b>970</b>                                               | <b>1,357</b> | <b>2,327</b> | <b>28</b>                                     | <b>-19</b> | <b>9</b>  |
| PM Peak Hour                                                                            | Inbound      | 1,029                         | 573          | 1,602        | 1,038                                                    | 571          | 1,609        | 9                                             | -2         | 7         |
|                                                                                         | Outbound     | 833                           | 998          | 1,831        | 866                                                      | 985          | 1,851        | 33                                            | -13        | 20        |
|                                                                                         | <b>Total</b> | <b>1,861</b>                  | <b>1,571</b> | <b>3,433</b> | <b>1,904</b>                                             | <b>1,556</b> | <b>3,460</b> | <b>43</b>                                     | <b>-15</b> | <b>27</b> |

As shown, the R&D/Office relocation would result in a transit ridership increase in CP and a decrease in HPS. Overall, the relocation would result in an increase of approximately 10 trips in the AM peak hour and 30 trips in the PM peak hour. Similar to the vehicle trip generation, the transit ridership would increase by less than 1 percent compared to the 2018 Modified Project Variant.

While the R&D/Office relocation would increase the number of transit trips, the proposed transit service is expected to be sufficient to serve the added demand because the increase is very small. Therefore, with the R&D/Office relocation, the transit capacity will be adequate and there will be no additional or substantially more severe significant transit impacts beyond those described in the FEIR and the 2018 Modified Project Variant assessment. .

## IMPACT TR-31 THROUGH TR-34: BICYCLE AND PEDESTRIAN CIRCULATION

The relocation of R&D/office would not change the bicycle and pedestrian circulation of the street network proposed under the 2018 Modified Project Variant. Therefore, no new or substantially more severe significant impacts beyond those identified in the FEIR or the Addendum 5 analysis of



the 2018 Modified Project Variant would result from the relocation of R&D/Office. Thus, no additional mitigation measures are required.

### IMPACTS TR-35 THROUGH TR-37: PARKING & LOADING

The relocation of R&D/office would result in a slight increase in parking supply and demand at CP and a slight reduction in supply and demand at HPS, compared to the 2018 Modified Project Variant. While the overall number of parking spaces for the entire site would decrease by approximately 35 spaces, the overall parking supply would continue to be within the range identified in the FEIR. The relocation of R&D/Office would not affect the loading requirements, which were concluded adequate in the FEIR. Though relocating R&D/office would shift some of the demand and supply from HP to CP; the amount of loading provided would follow the requirements and would continue to be adequate.

Therefore, the relocation of the R&D/Office is not expected change the conclusions stated in the Addendum 5 Modified Project, such that the relocation would not result in any new significant impacts to parking and loading, and no new mitigation measures would be required.

### IMPACTS TR-38 THROUGH TR-55: STADIUM IMPACTS

The FEIR included a number of impacts related to operation of the proposed new NFL stadium in the Hunters Point Shipyard site. However, the stadium is not part of the 2018 Modified Project Variant and these impacts and associated mitigation measures no longer apply.

### IMPACT TR-51 THROUGH TR-55: ARENA IMPACTS

The R&D/Office relocation would slightly increase traffic generation at CP. As a result, there could be slightly more congestion during special events at the arena. However, as noted earlier, the overall increase in traffic at CP associated with the relocation would be quite small, and thus, not likely to create any new or substantially more severe significant impacts associated with events at the arena compared to what was described in the FEIR, and therefore no additional mitigation measures are required.



## IMPACT TR-56: AIR TRAFFIC IMPACTS

The relocation of R&D/Office would contain the same overall land uses and general development plan, thus, would not change the conclusions regarding air traffic. The relocation would not create any new significant impacts with respect to air traffic and no additional mitigation measures are required.

## IMPACT TR-57: HAZARDS DUE TO DESIGN FEATURES

The R&D/Office relocation is not expected to change the Project's transportation infrastructure; however, any changes would be designed in accordance with City standards and would be revised and approved by the City. Therefore, the relocation would not result in any new significant impacts to design features and no mitigation measures would be required.

## IMPACT TR-58: EMERGENCY ACCESS

The EIR determined that the Project's transportation infrastructure would adequately facilitate emergency access and be designed to City standards, which include provisions that address emergency vehicles. The R&D/Office relocation would not affect the transportation infrastructure. Therefore, no new significant impacts to emergency access have been identified and no mitigation measures are required.

Please contact us with questions or comments.

Sincerely,

FEHR & PEERS

Chris Mitchell, PE  
Principal

Sarah Chan, PE TE  
Senior Transportation Engineer

SF08-0407



# MEMO

Date **April 5, 2018**

To **Jose Campos,  
Office of Community Investment and Infrastructure  
Joy Navarette,  
Planning Department, City and County of San Francisco**

From **Michael Keinath  
Sarah Manzano  
Kevin Warner**

Subject **Supplement to Candlestick Point-Hunter Point Shipyard  
Phase II Development Plan Air Quality and Noise Analyses  
for R&D Relocation**

## INTRODUCTION

In 2009, the Final Environmental Impact Report (FEIR) for the proposed Candlestick Point – Hunters Point Shipyard Phase II Development Plan (herein referred to as “Project”) was published (San Francisco Planning Department Case Number 2007.0946E). The FEIR for the Project was certified in July 2010 and since that time the Project proponent, FivePoint, formerly Lennar Urban, and the City and County of San Francisco, have been working to implement the Project plan. A number of refinements have been proposed to the Project that have been analyzed through a series of addenda.

Currently, the Project has been modified to include revisions to proposed land uses, adjusted locations for two high-rise towers, redesign of parks and open spaces, refinements to the street network, additional water taxi infrastructure and two pedestrian bridges, and revisions to the utility network. The proposed modified land uses are referred to as the 2018 Modified Project Variant. Ramboll US Corporation (Ramboll) analyzed air quality, greenhouse gas, and environmental noise analyses of the 2018 Modified Project Variant in support of Addendum 5.

Ramboll understands that the Project proponent would like the flexibility to move some 2018 Modified Project Variant R&D uses from Hunters Point Shipyard (HPS) to Candlestick Point (CP), though not increase the total square footage on Candlestick Point by more than 10% of total area (or roughly 118,500 square feet of R&D uses). The memorandum addresses the expected impact of these R&D relocation on air quality, greenhouse gas, and noise.

## AIR QUALITY AND GREENHOUSE GAS

Air quality and greenhouse gas construction impacts (Impact AQ-1, AQ-2, and AQ-3 and GC-1) are not expected to change. Also, the Project will still be required to comply with mitigation measures MM HZ-15, MM AQ-2.1, and MM AQ-2.2.

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The relocation of 118,500 square feet of R&D land use would result in an overall increase in square footage at CP, and decrease overall square footage at HPS. However, the increase in square footage at CP is not expected to change construction impacts. The addition of the R&D space and associated construction would be in the commercial area of CP. The health risk assessment showed that health impacts from construction were significantly below thresholds; increase in R&D at CP could result in a maximum increase of 10%.

Impact from operational mass emissions (Impact AQ-4 and GC-1) is not expected to change. Table 1 shows the comparison of emissions from the 2018 Modified Project Variant with the R&D transfer to the 2010 Project. This incorporates trip information provided by Fehr and Peers. As shown in the table, emissions from all pollutants are lower than was estimated in the 2010 FEIR.

**TABLE 1 EMISSIONS COMPARISON**

| Analysis Area             | 2010 Project (Operational Emissions<br>for project, Build-Out 2030) <sup>a</sup> |                             |                              |                               | Addendum 5 with R&D (Operational Emissions for<br>2018 Modified Project Variant, Build-Out 2034) <sup>b</sup> |                             |                              |                               |
|---------------------------|----------------------------------------------------------------------------------|-----------------------------|------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------|-------------------------------|
|                           | ROG<br>(lb/day)                                                                  | NO <sub>x</sub><br>(lb/day) | PM <sub>10</sub><br>(lb/day) | PM <sub>2.5</sub><br>(lb/day) | ROG<br>(lb/day)                                                                                               | NO <sub>x</sub><br>(lb/day) | PM <sub>10</sub><br>(lb/day) | PM <sub>2.5</sub><br>(lb/day) |
| Candlestick Point         | 666                                                                              | 265                         | 1,029                        | 197                           | 218                                                                                                           | 168                         | 208                          | 67                            |
| HPS2                      | 255                                                                              | 119                         | 424                          | 81                            | 211                                                                                                           | 174                         | 191                          | 59                            |
| <b>Project Site Total</b> | <b>921</b>                                                                       | <b>384</b>                  | <b>1,453</b>                 | <b>278</b>                    | <b>429</b>                                                                                                    | <b>342</b>                  | <b>399</b>                   | <b>126</b>                    |

Operational emissions for the 2018 Modified Project Variant with R&D transfer were calculated using the same methodology as was used in Addendum 5 and described in our memorandum Operational Air Quality and Greenhouse Gas Emissions and PM<sub>2.5</sub> Concentration Evaluations, dated March 30, 2018.

Daily ROG and NO<sub>x</sub> emissions are calculated under summer conditions and daily PM<sub>10</sub> and PM<sub>2.5</sub> emissions are calculated under winter conditions.

ROG = reactive organic gases; NO<sub>x</sub> = nitrogen oxides; PM<sub>10</sub> = particulate matter less than 10 micrometers in diameter; PM<sub>2.5</sub> = particulate matter less than 2.5 micrometers in diameter.

a. Emissions from *Candlestick Point–Hunters Point Shipyard Phase II Development Plan EIR*, Section III.H (Air Quality), Table III.H-5 (2009).

b. Operational emissions calculated with CalEEMod® version 2016.3.2.

Impacts from operational CO and PM<sub>2.5</sub> concentrations (Impact AQ-5 and AQ-7) are not expected to change. Fehr and Peers provided traffic volumes that incorporate the transfer in land uses. With the movement of the R&D land use to CP, there would be a slight increase in traffic on Gilman Avenue while traffic volumes on all other streets would decrease compared to Addendum 5.

In Addendum 5, the PM<sub>2.5</sub> and CO concentrations near Gilman Avenue would be below thresholds. Traffic is expected to increase on Third Street by 0.4% compared to the traffic volumes analyzed in Addendum 5. This slight increase in traffic would not increase traffic above thresholds.

The decrease in traffic along the other roads would decrease the PM<sub>2.5</sub> and CO concentrations when compared to Addendum 5. Thus, the impacts from PM<sub>2.5</sub> and CO concentrations would not change from what was discussed in Addendum 5.

It is our understanding that the CP R&D land uses would not emit toxic air contaminants (TAC) beyond typical office use, so would not affect Impact AQ-6. TAC emissions from offices are not generally analyzed for TACs. However, MM AQ-6.1 and MM AQ-6.2 would apply to CP if TAC emitting sources were located in CP.

These land use modifications do not add new odor generating sources, and so would not change Impact AQ-8. These modifications also do not change any aspect of the project that would affect consistency with the Clean Air Plan's goals, and would not change Impact AQ-9.

This R&D relocation is not expected to change the conclusions of air quality or greenhouse gas impact statements.

#### **ENVIRONMENTAL NOISE**

The relocation of 118,500 square feet of R&D would result in minimal changes to traffic along area roadways resulting in minimal changes in traffic noise, between 0 dBA and 0.2 dBA when compared with the 2018 Modified Project Variant. These very small changes in traffic noise levels are acoustically insignificant and would not affect the conclusions of Impact statement NO-6 regarding project-related traffic noise impacts or cumulative traffic noise impacts (i.e., both would remain significant and unavoidable).

Regarding noise from construction activities or during operation of the Project, the proposed relocation of R&D land use would have a negligible effect. That is, relocation of the R&D land use would result in noise impact statements and conclusions that are identical to the 2018 Modified Project Variant.

#### **SUMMARY**

In summary, moving roughly 118,500 square feet of R&D from HPS to CP would not create additional significant impacts or more substantially severe impacts to the air quality, greenhouse gas, and noise analysis.

Attachments:

A: CalEEMod® Flies

**ATTACHMENT A**  
**CALEEMOD® FLIES**



## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

**Candlestick Point - Operational - CAP Analysis****San Francisco County, Summer****1.0 Project Characteristics****1.1 Land Usage**

| Land Uses                    | Size     | Metric        | Lot Acreage | Floor Surface Area | Population |
|------------------------------|----------|---------------|-------------|--------------------|------------|
| Research & Development       | 268.50   | 1000sqft      | 3.02        | 268,500.00         | 0          |
| Enclosed Parking Structure   | 7,218.00 | Space         | 31.81       | 2,887,200.00       | 0          |
| Parking Lot                  | 1,360.00 | Space         | 5.99        | 544,000.00         | 0          |
| Unenclosed Parking Structure | 2,189.00 | Space         | 9.65        | 875,600.00         | 0          |
| Arena                        | 75.00    | 1000sqft      | 11.81       | 75,000.00          | 0          |
| City Park                    | 112.40   | Acre          | 112.40      | 4,896,144.00       | 0          |
| Health Club                  | 50.00    | 1000sqft      | 0.56        | 50,000.00          | 0          |
| Hotel                        | 220.00   | Room          | 3.59        | 150,000.00         | 0          |
| Apartments Mid Rise          | 7,218.00 | Dwelling Unit | 93.01       | 7,218,000.00       | 20643      |
| Regional Shopping Center     | 635.00   | 1000sqft      | 7.76        | 635,000.00         | 0          |
| Strip Mall                   | 125.00   | 1000sqft      | 1.41        | 125,000.00         | 0          |

**1.2 Other Project Characteristics**

|                                |                                |                                |       |                                  |       |
|--------------------------------|--------------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Urban                          | <b>Wind Speed (m/s)</b>        | 4.6   | <b>Precipitation Freq (Days)</b> | 64    |
| <b>Climate Zone</b>            | 5                              |                                |       | <b>Operational Year</b>          | 2032  |
| <b>Utility Company</b>         | Pacific Gas & Electric Company |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 286.7                          | <b>CH4 Intensity (lb/MWhr)</b> | 0.029 | <b>N2O Intensity (lb/MWhr)</b>   | 0.006 |

**1.3 User Entered Comments & Non-Default Data**

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

Project Characteristics - Assumed construction start date is 01/01/2018.

CO2 emissions intensity for 2032 based on a 50% RPS for 2030, calculated by averaging CO2 intensity for 2013, 2014 and 2015 as the baseline.

CH4 and N2O intensity is similar to PG&E.

Land Use - Land uses based on information provided by Client. Total acreage in EIR is 281. Lot acreages have been scaled down accordingly. Acreage for city park remains the same. Assumed zero building area in city parks.

Construction Phase - Zero'ed out construction since this was calculated separately.

Trips and VMT - Not modifying anything here since construction is modeled separately.

On-road Fugitive Dust - Not modifying anything here since construction is modeled separately.

Demolition - Not modifying anything here since construction is modeled separately.

Grading - Not modifying anything here since construction is modeled separately.

Architectural Coating - Not modifying anything here since construction is modeled separately.

Vehicle Trips - Trip rates calculated based on study by F&P. Adjusted total trips are calculated based on CalEEMod default trip generation rates. Trip lengths are from EIR AQ section for Candlestick point.

Woodstoves - No wood-stoves in project location. Assuming there are 7218 natural gas fireplaces, that operate for 4 hours a day for 50 days (200 hours/year).

Consumer Products - ROG emissions factor for consumer products is for the city of San Francisco

Energy Use -

Water And Wastewater - Total water usage is based on EIR for Candlestick point. Indoor and outdoor water usage is calculated based on CalEEMOD ratio.

Solid Waste - Solid waste generation rate is based on EIR waste disposal rate for Candlestick point.

| Table Name           | Column Name      | Default Value | New Value |
|----------------------|------------------|---------------|-----------|
| tblConstructionPhase | NumDays          | 330.00        | 0.00      |
| tblConstructionPhase | NumDays          | 4,650.00      | 0.00      |
| tblConstructionPhase | NumDays          | 300.00        | 0.00      |
| tblConstructionPhase | NumDays          | 465.00        | 0.00      |
| tblConstructionPhase | NumDays          | 330.00        | 0.00      |
| tblConstructionPhase | NumDays          | 180.00        | 0.00      |
| tblConsumerProducts  | ROG_EF           | 2.14E-05      | 1.51E-05  |
| tblFireplaces        | FireplaceDayYear | 11.14         | 50.00     |
| tblFireplaces        | FireplaceHourDay | 3.50          | 4.00      |

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

|                           |                          |            |            |
|---------------------------|--------------------------|------------|------------|
| tblFireplaces             | FireplaceWoodMass        | 228.80     | 0.00       |
| tblFireplaces             | NumberGas                | 1,082.70   | 7,218.00   |
| tblFireplaces             | NumberNoFireplace        | 288.72     | 0.00       |
| tblFireplaces             | NumberWood               | 1,227.06   | 0.00       |
| tblGrading                | AcresOfGrading           | 0.00       | 1,162.50   |
| tblLandUse                | LandUseSquareFeet        | 319,440.00 | 150,000.00 |
| tblLandUse                | LotAcreage               | 6.16       | 3.02       |
| tblLandUse                | LotAcreage               | 64.96      | 31.81      |
| tblLandUse                | LotAcreage               | 12.24      | 5.99       |
| tblLandUse                | LotAcreage               | 19.70      | 9.65       |
| tblLandUse                | LotAcreage               | 24.11      | 11.81      |
| tblLandUse                | LotAcreage               | 1.15       | 0.56       |
| tblLandUse                | LotAcreage               | 7.33       | 3.59       |
| tblLandUse                | LotAcreage               | 189.95     | 93.01      |
| tblLandUse                | LotAcreage               | 14.58      | 7.76       |
| tblLandUse                | LotAcreage               | 2.87       | 1.41       |
| tblProjectCharacteristics | CO2IntensityFactor       | 641.35     | 286.7      |
| tblSequestration          | NumberOfNewTrees         | 0.00       | 5,000.00   |
| tblSolidWaste             | SolidWasteGenerationRate | 3,320.28   | 7,062.81   |
| tblSolidWaste             | SolidWasteGenerationRate | 2.06       | 645.00     |
| tblSolidWaste             | SolidWasteGenerationRate | 9.67       | 10.12      |
| tblSolidWaste             | SolidWasteGenerationRate | 285.00     | 46.75      |
| tblSolidWaste             | SolidWasteGenerationRate | 120.45     | 202.40     |
| tblSolidWaste             | SolidWasteGenerationRate | 20.40      | 294.01     |
| tblTripsAndVMT            | VendorTripNumber         | 2,494.00   | 2,474.00   |
| tblTripsAndVMT            | WorkerTripNumber         | 9,507.00   | 9,469.00   |
| tblTripsAndVMT            | WorkerTripNumber         | 1,901.00   | 1,894.00   |

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

|                 |        |       |      |
|-----------------|--------|-------|------|
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | HO_TL  | 5.70  | 7.50 |
| tblVehicleTrips | HS_TL  | 4.80  | 7.30 |
| tblVehicleTrips | ST_TR  | 6.39  | 2.68 |
| tblVehicleTrips | ST_TR  | 10.71 | 4.49 |
| tblVehicleTrips | ST_TR  | 22.75 | 9.53 |
| tblVehicleTrips | ST_TR  | 20.87 | 0.46 |
| tblVehicleTrips | ST_TR  | 8.19  | 3.43 |

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

|                 |                     |                |                |
|-----------------|---------------------|----------------|----------------|
| tblVehicleTrips | ST_TR               | 49.97          | 20.93          |
| tblVehicleTrips | ST_TR               | 1.90           | 0.80           |
| tblVehicleTrips | ST_TR               | 42.04          | 17.61          |
| tblVehicleTrips | SU_TR               | 5.86           | 2.45           |
| tblVehicleTrips | SU_TR               | 10.71          | 4.49           |
| tblVehicleTrips | SU_TR               | 16.74          | 7.01           |
| tblVehicleTrips | SU_TR               | 26.73          | 11.19          |
| tblVehicleTrips | SU_TR               | 5.95           | 2.49           |
| tblVehicleTrips | SU_TR               | 25.24          | 10.57          |
| tblVehicleTrips | SU_TR               | 1.11           | 0.46           |
| tblVehicleTrips | SU_TR               | 20.43          | 8.56           |
| tblVehicleTrips | WD_TR               | 6.65           | 2.78           |
| tblVehicleTrips | WD_TR               | 10.71          | 4.49           |
| tblVehicleTrips | WD_TR               | 1.89           | 0.79           |
| tblVehicleTrips | WD_TR               | 32.93          | 13.79          |
| tblVehicleTrips | WD_TR               | 8.17           | 3.42           |
| tblVehicleTrips | WD_TR               | 42.70          | 17.88          |
| tblVehicleTrips | WD_TR               | 8.11           | 3.40           |
| tblVehicleTrips | WD_TR               | 44.32          | 18.56          |
| tblWater        | IndoorWaterUseRate  | 470,281,756.94 | 125,564,800.00 |
| tblWater        | IndoorWaterUseRate  | 32,307,758.82  | 3,431,000.00   |
| tblWater        | IndoorWaterUseRate  | 2,957,157.20   | 2,262,998.00   |
| tblWater        | IndoorWaterUseRate  | 5,580,689.40   | 16,424,741.00  |
| tblWater        | IndoorWaterUseRate  | 47,036,051.14  | 18,104,088.00  |
| tblWater        | IndoorWaterUseRate  | 132,019,824.82 | 13,916,355.00  |
| tblWater        | IndoorWaterUseRate  | 9,259,065.19   | 7,081,023.00   |
| tblWater        | OutdoorWaterUseRate | 296,481,977.20 | 79,159,747.00  |

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

|               |                     |                |               |
|---------------|---------------------|----------------|---------------|
| tblWater      | OutdoorWaterUseRate | 2,062,197.37   | 219,000.00    |
| tblWater      | OutdoorWaterUseRate | 133,922,503.70 | 19,573,473.00 |
| tblWater      | OutdoorWaterUseRate | 1,812,451.19   | 1,387,002.00  |
| tblWater      | OutdoorWaterUseRate | 620,076.60     | 1,825,259.00  |
| tblWater      | OutdoorWaterUseRate | 28,828,547.47  | 11,095,912.00 |
| tblWater      | OutdoorWaterUseRate | 5,674,910.92   | 218,977.00    |
| tblWoodstoves | NumberCatalytic     | 144.36         | 0.00          |
| tblWoodstoves | NumberNoncatalytic  | 144.36         | 0.00          |
| tblWoodstoves | WoodstoveDayYear    | 14.12          | 0.00          |

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

[illegible]

Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

## 2.1 Overall Construction (Maximum Daily Emission)

### Mitigated Construction

[illegible][illegible]

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

**2.2 Overall Operational****Unmitigated Operational**

|              | ROG             | NOx             | CO                | SO2           | Fugitive PM10   | Exhaust PM10   | PM10 Total      | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2      | NBio- CO2           | Total CO2           | CH4            | N2O           | CO2e                |
|--------------|-----------------|-----------------|-------------------|---------------|-----------------|----------------|-----------------|----------------|----------------|----------------|---------------|---------------------|---------------------|----------------|---------------|---------------------|
| Category     | lb/day          |                 |                   |               |                 |                |                 |                |                |                | lb/day        |                     |                     |                |               |                     |
| Area         | 199.0706        | 166.5032        | 663.0993          | 1.0506        |                 | 16.2143        | 16.2143         |                | 16.2143        | 16.2143        | 0.0000        | 204,877.2850        | 204,877.2850        | 4.9347         | 3.7364        | 206,114.0930        |
| Energy       | 2.4147          | 20.9366         | 10.9923           | 0.1317        |                 | 1.6684         | 1.6684          |                | 1.6684         | 1.6684         |               | 26,342.5846         | 26,342.5846         | 0.5049         | 0.4830        | 26,499.1254         |
| Mobile       | 35.0440         | 139.7646        | 370.6652          | 1.7295        | 192.0443        | 1.2138         | 193.2581        | 51.4928        | 1.1309         | 52.6237        |               | 176,702.5184        | 176,702.5184        | 6.5196         |               | 176,865.5081        |
| <b>Total</b> | <b>236.5294</b> | <b>327.2043</b> | <b>1,044.7568</b> | <b>2.9118</b> | <b>192.0443</b> | <b>19.0964</b> | <b>211.1407</b> | <b>51.4928</b> | <b>19.0136</b> | <b>70.5063</b> | <b>0.0000</b> | <b>407,922.3880</b> | <b>407,922.3880</b> | <b>11.9592</b> | <b>4.2193</b> | <b>409,478.7265</b> |

**Mitigated Operational**

|              | ROG             | NOx             | CO                | SO2           | Fugitive PM10   | Exhaust PM10   | PM10 Total      | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2      | NBio- CO2           | Total CO2           | CH4            | N2O           | CO2e                |
|--------------|-----------------|-----------------|-------------------|---------------|-----------------|----------------|-----------------|----------------|----------------|----------------|---------------|---------------------|---------------------|----------------|---------------|---------------------|
| Category     | lb/day          |                 |                   |               |                 |                |                 |                |                |                | lb/day        |                     |                     |                |               |                     |
| Area         | 199.0706        | 166.5032        | 663.0993          | 1.0506        |                 | 16.2143        | 16.2143         |                | 16.2143        | 16.2143        | 0.0000        | 204,877.2850        | 204,877.2850        | 4.9347         | 3.7364        | 206,114.0930        |
| Energy       | 2.4147          | 20.9366         | 10.9923           | 0.1317        |                 | 1.6684         | 1.6684          |                | 1.6684         | 1.6684         |               | 26,342.5846         | 26,342.5846         | 0.5049         | 0.4830        | 26,499.1254         |
| Mobile       | 35.0440         | 139.7646        | 370.6652          | 1.7295        | 192.0443        | 1.2138         | 193.2581        | 51.4928        | 1.1309         | 52.6237        |               | 176,702.5184        | 176,702.5184        | 6.5196         |               | 176,865.5081        |
| <b>Total</b> | <b>236.5294</b> | <b>327.2043</b> | <b>1,044.7568</b> | <b>2.9118</b> | <b>192.0443</b> | <b>19.0964</b> | <b>211.1407</b> | <b>51.4928</b> | <b>19.0136</b> | <b>70.5063</b> | <b>0.0000</b> | <b>407,922.3880</b> | <b>407,922.3880</b> | <b>11.9592</b> | <b>4.2193</b> | <b>409,478.7265</b> |



## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

### 3.0 Construction Detail

---

#### Construction Phase

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date   | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1            | Demolition            | Demolition            | 1/1/2018   | 12/31/2017 | 5             | 0        |                   |
| 2            | Site Preparation      | Site Preparation      | 2/23/2019  | 2/22/2019  | 5             | 0        |                   |
| 3            | Grading               | Grading               | 11/2/2019  | 11/1/2019  | 5             | 0        |                   |
| 4            | Building Construction | Building Construction | 8/14/2021  | 8/13/2021  | 5             | 0        |                   |
| 5            | Paving                | Paving                | 6/11/2039  | 6/10/2039  | 5             | 0        |                   |
| 6            | Architectural Coating | Architectural Coating | 9/15/2040  | 9/14/2040  | 5             | 0        |                   |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 1162.5**

**Acres of Paving: 47.45**

**Residential Indoor: 14,616,450; Residential Outdoor: 4,872,150; Non-Residential Indoor: 1,955,250; Non-Residential Outdoor: 651,750; Striped Parking Area: 258,408 (Architectural Coating – sqft)**

#### OffRoad Equipment

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

| Phase Name            | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Demolition            | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |
| Demolition            | Excavators                | 3      | 8.00        | 158         | 0.38        |
| Demolition            | Rubber Tired Dozers       | 2      | 8.00        | 247         | 0.40        |
| Site Preparation      | Rubber Tired Dozers       | 3      | 8.00        | 247         | 0.40        |
| Site Preparation      | Tractors/Loaders/Backhoes | 4      | 8.00        | 97          | 0.37        |
| Grading               | Excavators                | 2      | 8.00        | 158         | 0.38        |
| Grading               | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Grading               | Rubber Tired Dozers       | 1      | 8.00        | 247         | 0.40        |
| Grading               | Scrapers                  | 2      | 8.00        | 367         | 0.48        |
| Grading               | Tractors/Loaders/Backhoes | 2      | 8.00        | 97          | 0.37        |
| Building Construction | Cranes                    | 1      | 7.00        | 231         | 0.29        |
| Building Construction | Forklifts                 | 3      | 8.00        | 89          | 0.20        |
| Building Construction | Generator Sets            | 1      | 8.00        | 84          | 0.74        |
| Building Construction | Tractors/Loaders/Backhoes | 3      | 7.00        | 97          | 0.37        |
| Building Construction | Welders                   | 1      | 8.00        | 46          | 0.45        |
| Paving                | Pavers                    | 2      | 8.00        | 130         | 0.42        |
| Paving                | Paving Equipment          | 2      | 8.00        | 132         | 0.36        |
| Paving                | Rollers                   | 2      | 8.00        | 80          | 0.38        |
| Architectural Coating | Air Compressors           | 1      | 6.00        | 78          | 0.48        |

Trips and VMT

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition            | 6                       | 15.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 7                       | 18.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Grading               | 8                       | 20.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 9                       | 9,469.00           | 2,474.00           | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Paving                | 6                       | 15.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 1                       | 1,894.00           | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

### 3.1 Mitigation Measures Construction

### 3.3 Site Preparation - 2019

### Unmitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

### 3.3 Site Preparation - 2019

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

### 3.3 Site Preparation - 2019

### Mitigated Construction Off-Site

[illegible]

### 3.4 Grading - 2019

### Unmitigated Construction On-Site

[illegible]

Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

### 3.4 Grading - 2019

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

### 3.4 Grading - 2019

### Mitigated Construction Off-Site

[illegible]

### 3.5 Building Construction - 2021

### Unmitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

### 3.5 Building Construction - 2021

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]



Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

### 3.5 Building Construction - 2021

### Mitigated Construction Off-Site

[illegible]

### 3.6 Paving - 2039

### Unmitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

### 3.6 Paving - 2039

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

### 3.6 Paving - 2039

### Mitigated Construction Off-Site

[illegible]

### 3.7 Architectural Coating - 2040

### Unmitigated Construction On-Site

[illegible]

Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

### 3.7 Architectural Coating - 2040

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

**3.7 Architectural Coating - 2040****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

|             | ROG     | NOx      | CO       | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2    | Total CO2    | CH4    | N2O | CO2e         |
|-------------|---------|----------|----------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|--------------|--------------|--------|-----|--------------|
| Category    | lb/day  |          |          |        |               |              |            |                |               |             | lb/day   |              |              |        |     |              |
| Mitigated   | 35.0440 | 139.7646 | 370.6652 | 1.7295 | 192.0443      | 1.2138       | 193.2581   | 51.4928        | 1.1309        | 52.6237     |          | 176,702.5184 | 176,702.5184 | 6.5196 |     | 176,865.5081 |
| Unmitigated | 35.0440 | 139.7646 | 370.6652 | 1.7295 | 192.0443      | 1.2138       | 193.2581   | 51.4928        | 1.1309        | 52.6237     |          | 176,702.5184 | 176,702.5184 | 6.5196 |     | 176,865.5081 |

## 4.2 Trip Summary Information

| Land Use                     | Average Daily Trip Rate |           |           | Unmitigated | Mitigated  |
|------------------------------|-------------------------|-----------|-----------|-------------|------------|
|                              | Weekday                 | Saturday  | Sunday    | Annual VMT  | Annual VMT |
| Apartments Mid Rise          | 20,066.04               | 19,344.24 | 17684.10  | 53,859,376  | 53,859,376 |
| Arena                        | 336.75                  | 336.75    | 336.75    | 662,896     | 662,896    |
| City Park                    | 88.80                   | 1,071.17  | 787.92    | 708,247     | 708,247    |
| Enclosed Parking Structure   | 0.00                    | 0.00      | 0.00      |             |            |
| Health Club                  | 689.50                  | 23.00     | 559.50    | 1,005,396   | 1,005,396  |
| Hotel                        | 752.40                  | 754.60    | 547.80    | 1,388,900   | 1,388,900  |
| Parking Lot                  | 0.00                    | 0.00      | 0.00      |             |            |
| Regional Shopping Center     | 11,353.80               | 13,290.55 | 6711.95   | 19,438,793  | 19,438,793 |
| Research & Development       | 912.90                  | 214.80    | 123.51    | 1,770,027   | 1,770,027  |
| Strip Mall                   | 2,320.00                | 2,201.25  | 1070.00   | 3,307,217   | 3,307,217  |
| Unenclosed Parking Structure | 0.00                    | 0.00      | 0.00      |             |            |
| Total                        | 36,520.19               | 37,236.36 | 27,821.53 | 82,140,852  | 82,140,852 |

## 4.3 Trip Type Information

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

| Land Use                     | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                              | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Apartments Mid Rise          | 10.80      | 7.30       | 7.50        | 31.00      | 15.00      | 54.00       | 86             | 11       | 3       |
| Arena                        | 9.50       | 7.40       | 7.40        | 0.00       | 81.00      | 19.00       | 66             | 28       | 6       |
| City Park                    | 9.50       | 7.40       | 7.40        | 33.00      | 48.00      | 19.00       | 66             | 28       | 6       |
| Enclosed Parking Structure   | 9.50       | 7.40       | 7.40        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Health Club                  | 9.50       | 7.40       | 7.40        | 16.90      | 64.10      | 19.00       | 52             | 39       | 9       |
| Hotel                        | 9.50       | 7.40       | 7.40        | 19.40      | 61.60      | 19.00       | 58             | 38       | 4       |
| Parking Lot                  | 9.50       | 7.40       | 7.40        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Regional Shopping Center     | 9.50       | 7.40       | 7.40        | 16.30      | 64.70      | 19.00       | 54             | 35       | 11      |
| Research & Development       | 9.50       | 7.40       | 7.40        | 33.00      | 48.00      | 19.00       | 82             | 15       | 3       |
| Strip Mall                   | 9.50       | 7.40       | 7.40        | 16.60      | 64.40      | 19.00       | 45             | 40       | 15      |
| Unenclosed Parking Structure | 9.50       | 7.40       | 7.40        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |

## 4.4 Fleet Mix

| Land Use                     | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Apartments Mid Rise          | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Arena                        | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| City Park                    | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Enclosed Parking Structure   | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Health Club                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Hotel                        | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Parking Lot                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Regional Shopping Center     | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Research & Development       | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Strip Mall                   | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Unenclosed Parking Structure | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |

## 5.0 Energy Detail

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

Historical Energy Use: N

**5.1 Mitigation Measures Energy**


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|                        | ROG    | NOx     | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4    | N2O    | CO2e        |
|------------------------|--------|---------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|--------|-------------|
| Category               | lb/day |         |         |        |               |              |            |                |               |             | lb/day   |             |             |        |        |             |
| NaturalGas Mitigated   | 2.4147 | 20.9366 | 10.9923 | 0.1317 |               | 1.6684       | 1.6684     |                | 1.6684        | 1.6684      |          | 26,342.5846 | 26,342.5846 | 0.5049 | 0.4830 | 26,499.1254 |
| NaturalGas Unmitigated | 2.4147 | 20.9366 | 10.9923 | 0.1317 |               | 1.6684       | 1.6684     |                | 1.6684        | 1.6684      |          | 26,342.5846 | 26,342.5846 | 0.5049 | 0.4830 | 26,499.1254 |



## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

**5.2 Energy by Land Use - NaturalGas****Unmitigated**

|                              | NaturalGas Use | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|------------------------------|----------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|---------------|--------------------|
| Land Use                     | kBTU/yr        | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                    |                    |               |               |                    |
| Apartments Mid Rise          | 172647         | 1.8619        | 15.9106        | 6.7705         | 0.1016        |               | 1.2864        | 1.2864        |                | 1.2864        | 1.2864        |          | 20,311.4404        | 20,311.4404        | 0.3893        | 0.3724        | 20,432.1411        |
| Arena                        | 5085.62        | 0.0548        | 0.4986         | 0.4188         | 2.9900e-003   |               | 0.0379        | 0.0379        |                | 0.0379        | 0.0379        |          | 598.3078           | 598.3078           | 0.0115        | 0.0110        | 601.8633           |
| City Park                    | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Enclosed Parking Structure   | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Health Club                  | 3390.41        | 0.0366        | 0.3324         | 0.2792         | 1.9900e-003   |               | 0.0253        | 0.0253        |                | 0.0253        | 0.0253        |          | 398.8719           | 398.8719           | 7.6500e-003   | 7.3100e-003   | 401.2422           |
| Hotel                        | 15004.1        | 0.1618        | 1.4710         | 1.2356         | 8.8300e-003   |               | 0.1118        | 0.1118        |                | 0.1118        | 0.1118        |          | 1,765.1894         | 1,765.1894         | 0.0338        | 0.0324        | 1,775.6790         |
| Parking Lot                  | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Regional Shopping Center     | 8002.74        | 0.0863        | 0.7846         | 0.6591         | 4.7100e-003   |               | 0.0596        | 0.0596        |                | 0.0596        | 0.0596        |          | 941.4988           | 941.4988           | 0.0181        | 0.0173        | 947.0937           |
| Research & Development       | 18206.5        | 0.1963        | 1.7850         | 1.4994         | 0.0107        |               | 0.1357        | 0.1357        |                | 0.1357        | 0.1357        |          | 2,141.9420         | 2,141.9420         | 0.0411        | 0.0393        | 2,154.6705         |
| Strip Mall                   | 1575.34        | 0.0170        | 0.1545         | 0.1297         | 9.3000e-004   |               | 0.0117        | 0.0117        |                | 0.0117        | 0.0117        |          | 185.3344           | 185.3344           | 3.5500e-003   | 3.4000e-003   | 186.4358           |
| Unenclosed Parking Structure | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| <b>Total</b>                 |                | <b>2.4147</b> | <b>20.9366</b> | <b>10.9923</b> | <b>0.1317</b> |               | <b>1.6684</b> | <b>1.6684</b> |                | <b>1.6684</b> | <b>1.6684</b> |          | <b>26,342.5846</b> | <b>26,342.5846</b> | <b>0.5049</b> | <b>0.4830</b> | <b>26,499.1254</b> |

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

**5.2 Energy by Land Use - NaturalGas****Mitigated**

|                              | NaturalGas Use | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|------------------------------|----------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|---------------|--------------------|
| Land Use                     | kBTU/yr        | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                    |                    |               |               |                    |
| Apartments Mid Rise          | 172.647        | 1.8619        | 15.9106        | 6.7705         | 0.1016        |               | 1.2864        | 1.2864        |                | 1.2864        | 1.2864        |          | 20,311.4404        | 20,311.4404        | 0.3893        | 0.3724        | 20,432.1411        |
| Arena                        | 5.08562        | 0.0548        | 0.4986         | 0.4188         | 2.9900e-003   |               | 0.0379        | 0.0379        |                | 0.0379        | 0.0379        |          | 598.3078           | 598.3078           | 0.0115        | 0.0110        | 601.8633           |
| City Park                    | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Enclosed Parking Structure   | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Health Club                  | 3.39041        | 0.0366        | 0.3324         | 0.2792         | 1.9900e-003   |               | 0.0253        | 0.0253        |                | 0.0253        | 0.0253        |          | 398.8719           | 398.8719           | 7.6500e-003   | 7.3100e-003   | 401.2422           |
| Hotel                        | 15.0041        | 0.1618        | 1.4710         | 1.2356         | 8.8300e-003   |               | 0.1118        | 0.1118        |                | 0.1118        | 0.1118        |          | 1,765.1894         | 1,765.1894         | 0.0338        | 0.0324        | 1,775.6790         |
| Parking Lot                  | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Regional Shopping Center     | 8.00274        | 0.0863        | 0.7846         | 0.6591         | 4.7100e-003   |               | 0.0596        | 0.0596        |                | 0.0596        | 0.0596        |          | 941.4988           | 941.4988           | 0.0181        | 0.0173        | 947.0937           |
| Research & Development       | 18.2065        | 0.1963        | 1.7850         | 1.4994         | 0.0107        |               | 0.1357        | 0.1357        |                | 0.1357        | 0.1357        |          | 2,141.9420         | 2,141.9420         | 0.0411        | 0.0393        | 2,154.6705         |
| Strip Mall                   | 1.57534        | 0.0170        | 0.1545         | 0.1297         | 9.3000e-004   |               | 0.0117        | 0.0117        |                | 0.0117        | 0.0117        |          | 185.3344           | 185.3344           | 3.5500e-003   | 3.4000e-003   | 186.4358           |
| Unenclosed Parking Structure | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| <b>Total</b>                 |                | <b>2.4147</b> | <b>20.9366</b> | <b>10.9923</b> | <b>0.1317</b> |               | <b>1.6684</b> | <b>1.6684</b> |                | <b>1.6684</b> | <b>1.6684</b> |          | <b>26,342.5846</b> | <b>26,342.5846</b> | <b>0.5049</b> | <b>0.4830</b> | <b>26,499.1254</b> |

**6.0 Area Detail****6.1 Mitigation Measures Area**

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

|             | ROG      | NOx      | CO       | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2    | Total CO2    | CH4    | N2O    | CO2e         |
|-------------|----------|----------|----------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|--------------|--------------|--------|--------|--------------|
| Category    | lb/day   |          |          |        |               |              |            |                |               |             | lb/day   |              |              |        |        |              |
| Mitigated   | 199.0706 | 166.5032 | 663.0993 | 1.0506 |               | 16.2143      | 16.2143    |                | 16.2143       | 16.2143     | 0.0000   | 204,877.2850 | 204,877.2850 | 4.9347 | 3.7364 | 206,114.0930 |
| Unmitigated | 199.0706 | 166.5032 | 663.0993 | 1.0506 |               | 16.2143      | 16.2143    |                | 16.2143       | 16.2143     | 0.0000   | 204,877.2850 | 204,877.2850 | 4.9347 | 3.7364 | 206,114.0930 |

## 6.2 Area by SubCategory

Unmitigated

|                       | ROG             | NOx             | CO              | SO2           | Fugitive PM10 | Exhaust PM10   | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2      | NBio- CO2           | Total CO2           | CH4           | N2O           | CO2e                |
|-----------------------|-----------------|-----------------|-----------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------------|---------------------|---------------|---------------|---------------------|
| SubCategory           | lb/day          |                 |                 |               |               |                |                |                |                |                | lb/day        |                     |                     |               |               |                     |
| Architectural Coating | 32.0579         |                 |                 |               |               | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         |               |                     | 0.0000              |               |               | 0.0000              |
| Consumer Products     | 130.4524        |                 |                 |               |               | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         |               |                     | 0.0000              |               |               | 0.0000              |
| Hearth                | 18.6819         | 159.6452        | 67.9341         | 1.0190        |               | 12.9075        | 12.9075        |                | 12.9075        | 12.9075        | 0.0000        | 203,802.3529        | 203,802.3529        | 3.9062        | 3.7364        | 205,013.4484        |
| Landscaping           | 17.8785         | 6.8580          | 595.1652        | 0.0315        |               | 3.3068         | 3.3068         |                | 3.3068         | 3.3068         |               | 1,074.9321          | 1,074.9321          | 1.0285        |               | 1,100.6446          |
| <b>Total</b>          | <b>199.0706</b> | <b>166.5032</b> | <b>663.0993</b> | <b>1.0506</b> |               | <b>16.2143</b> | <b>16.2143</b> |                | <b>16.2143</b> | <b>16.2143</b> | <b>0.0000</b> | <b>204,877.2850</b> | <b>204,877.2850</b> | <b>4.9347</b> | <b>3.7364</b> | <b>206,114.0930</b> |

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

**6.2 Area by SubCategory****Mitigated**

|                       | ROG             | NOx             | CO              | SO2           | Fugitive PM10 | Exhaust PM10   | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2      | NBio- CO2           | Total CO2           | CH4           | N2O           | CO2e                |
|-----------------------|-----------------|-----------------|-----------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------------|---------------------|---------------|---------------|---------------------|
| SubCategory           | lb/day          |                 |                 |               |               |                |                |                |                |                | lb/day        |                     |                     |               |               |                     |
| Architectural Coating | 32.0579         |                 |                 |               |               | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         |               |                     | 0.0000              |               |               | 0.0000              |
| Consumer Products     | 130.4524        |                 |                 |               |               | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         |               |                     | 0.0000              |               |               | 0.0000              |
| Hearth                | 18.6819         | 159.6452        | 67.9341         | 1.0190        |               | 12.9075        | 12.9075        |                | 12.9075        | 12.9075        | 0.0000        | 203,802.3529        | 203,802.3529        | 3.9062        | 3.7364        | 205,013.4484        |
| Landscaping           | 17.8785         | 6.8580          | 595.1652        | 0.0315        |               | 3.3068         | 3.3068         |                | 3.3068         | 3.3068         |               | 1,074.9321          | 1,074.9321          | 1.0285        |               | 1,100.6446          |
| <b>Total</b>          | <b>199.0706</b> | <b>166.5032</b> | <b>663.0993</b> | <b>1.0506</b> |               | <b>16.2143</b> | <b>16.2143</b> |                | <b>16.2143</b> | <b>16.2143</b> | <b>0.0000</b> | <b>204,877.2850</b> | <b>204,877.2850</b> | <b>4.9347</b> | <b>3.7364</b> | <b>206,114.0930</b> |

**7.0 Water Detail****7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Summer

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

## Candlestick Point - Operational - CAP Analysis

### San Francisco County, Winter

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses                    | Size     | Metric        | Lot Acreage | Floor Surface Area | Population |
|------------------------------|----------|---------------|-------------|--------------------|------------|
| Research & Development       | 268.50   | 1000sqft      | 3.02        | 268,500.00         | 0          |
| Enclosed Parking Structure   | 7,218.00 | Space         | 31.81       | 2,887,200.00       | 0          |
| Parking Lot                  | 1,360.00 | Space         | 5.99        | 544,000.00         | 0          |
| Unenclosed Parking Structure | 2,189.00 | Space         | 9.65        | 875,600.00         | 0          |
| Arena                        | 75.00    | 1000sqft      | 11.81       | 75,000.00          | 0          |
| City Park                    | 112.40   | Acre          | 112.40      | 4,896,144.00       | 0          |
| Health Club                  | 50.00    | 1000sqft      | 0.56        | 50,000.00          | 0          |
| Hotel                        | 220.00   | Room          | 3.59        | 150,000.00         | 0          |
| Apartments Mid Rise          | 7,218.00 | Dwelling Unit | 93.01       | 7,218,000.00       | 20643      |
| Regional Shopping Center     | 635.00   | 1000sqft      | 7.76        | 635,000.00         | 0          |
| Strip Mall                   | 125.00   | 1000sqft      | 1.41        | 125,000.00         | 0          |

### 1.2 Other Project Characteristics

|                          |                                |                          |       |                           |       |
|--------------------------|--------------------------------|--------------------------|-------|---------------------------|-------|
| Urbanization             | Urban                          | Wind Speed (m/s)         | 4.6   | Precipitation Freq (Days) | 64    |
| Climate Zone             | 5                              |                          |       | Operational Year          | 2032  |
| Utility Company          | Pacific Gas & Electric Company |                          |       |                           |       |
| CO2 Intensity (lb/MW hr) | 286.7                          | CH4 Intensity (lb/MW hr) | 0.029 | N2O Intensity (lb/MW hr)  | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

Project Characteristics - Assumed construction start date is 01/01/2018.

CO2 emissions intensity for 2032 based on a 50% RPS for 2030, calculated by averaging CO2 intensity for 2013, 2014 and 2015 as the baseline.

CH4 and N2O intensity is similar to PG&E.

Land Use - Land uses based on information provided by Client. Total acreage in EIR is 281. Lot acreages have been scaled down accordingly. Acreage for city park remains the same. Assumed zero building area in city parks.

Construction Phase - Zero'ed out construction since this was calculated separately.

Trips and VMT - Not modifying anything here since construction is modeled separately.

On-road Fugitive Dust - Not modifying anything here since construction is modeled separately.

Demolition - Not modifying anything here since construction is modeled separately.

Grading - Not modifying anything here since construction is modeled separately.

Architectural Coating - Not modifying anything here since construction is modeled separately.

Vehicle Trips - Trip rates calculated based on study by F&P. Adjusted total trips are calculated based on CalEEMod default trip generation rates. Trip lengths are from EIR AQ section for Candlestick point.

Woodstoves - No wood-stoves in project location. Assuming there are 7218 natural gas fireplaces, that operate for 4 hours a day for 50 days (200 hours/year).

Consumer Products - ROG emissions factor for consumer products is for the city of San Francisco

Energy Use -

Water And Wastewater - Total water usage is based on EIR for Candlestick point. Indoor and outdoor water usage is calculated based on CalEEMOD ratio.

Solid Waste - Solid waste generation rate is based on EIR waste disposal rate for Candlestick point.

| Table Name           | Column Name      | Default Value | New Value |
|----------------------|------------------|---------------|-----------|
| tblConstructionPhase | NumDays          | 330.00        | 0.00      |
| tblConstructionPhase | NumDays          | 4,650.00      | 0.00      |
| tblConstructionPhase | NumDays          | 300.00        | 0.00      |
| tblConstructionPhase | NumDays          | 465.00        | 0.00      |
| tblConstructionPhase | NumDays          | 330.00        | 0.00      |
| tblConstructionPhase | NumDays          | 180.00        | 0.00      |
| tblConsumerProducts  | ROG_EF           | 2.14E-05      | 1.51E-05  |
| tblFireplaces        | FireplaceDayYear | 11.14         | 50.00     |
| tblFireplaces        | FireplaceHourDay | 3.50          | 4.00      |

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

|                           |                          |            |            |
|---------------------------|--------------------------|------------|------------|
| tblFireplaces             | FireplaceWoodMass        | 228.80     | 0.00       |
| tblFireplaces             | NumberGas                | 1,082.70   | 7,218.00   |
| tblFireplaces             | NumberNoFireplace        | 288.72     | 0.00       |
| tblFireplaces             | NumberWood               | 1,227.06   | 0.00       |
| tblGrading                | AcresOfGrading           | 0.00       | 1,162.50   |
| tblLandUse                | LandUseSquareFeet        | 319,440.00 | 150,000.00 |
| tblLandUse                | LotAcreage               | 6.16       | 3.02       |
| tblLandUse                | LotAcreage               | 64.96      | 31.81      |
| tblLandUse                | LotAcreage               | 12.24      | 5.99       |
| tblLandUse                | LotAcreage               | 19.70      | 9.65       |
| tblLandUse                | LotAcreage               | 24.11      | 11.81      |
| tblLandUse                | LotAcreage               | 1.15       | 0.56       |
| tblLandUse                | LotAcreage               | 7.33       | 3.59       |
| tblLandUse                | LotAcreage               | 189.95     | 93.01      |
| tblLandUse                | LotAcreage               | 14.58      | 7.76       |
| tblLandUse                | LotAcreage               | 2.87       | 1.41       |
| tblProjectCharacteristics | CO2IntensityFactor       | 641.35     | 286.7      |
| tblSequestration          | NumberOfNewTrees         | 0.00       | 5,000.00   |
| tblSolidWaste             | SolidWasteGenerationRate | 3,320.28   | 7,062.81   |
| tblSolidWaste             | SolidWasteGenerationRate | 2.06       | 645.00     |
| tblSolidWaste             | SolidWasteGenerationRate | 9.67       | 10.12      |
| tblSolidWaste             | SolidWasteGenerationRate | 285.00     | 46.75      |
| tblSolidWaste             | SolidWasteGenerationRate | 120.45     | 202.40     |
| tblSolidWaste             | SolidWasteGenerationRate | 20.40      | 294.01     |
| tblTripsAndVMT            | VendorTripNumber         | 2,494.00   | 2,474.00   |
| tblTripsAndVMT            | WorkerTripNumber         | 9,507.00   | 9,469.00   |
| tblTripsAndVMT            | WorkerTripNumber         | 1,901.00   | 1,894.00   |



## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

|                 |        |       |      |
|-----------------|--------|-------|------|
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CC_TL  | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40 |
| tblVehicleTrips | HO_TL  | 5.70  | 7.50 |
| tblVehicleTrips | HS_TL  | 4.80  | 7.30 |
| tblVehicleTrips | ST_TR  | 6.39  | 2.68 |
| tblVehicleTrips | ST_TR  | 10.71 | 4.49 |
| tblVehicleTrips | ST_TR  | 22.75 | 9.53 |
| tblVehicleTrips | ST_TR  | 20.87 | 0.46 |
| tblVehicleTrips | ST_TR  | 8.19  | 3.43 |

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

|                 |                     |                |                |
|-----------------|---------------------|----------------|----------------|
| tblVehicleTrips | ST_TR               | 49.97          | 20.93          |
| tblVehicleTrips | ST_TR               | 1.90           | 0.80           |
| tblVehicleTrips | ST_TR               | 42.04          | 17.61          |
| tblVehicleTrips | SU_TR               | 5.86           | 2.45           |
| tblVehicleTrips | SU_TR               | 10.71          | 4.49           |
| tblVehicleTrips | SU_TR               | 16.74          | 7.01           |
| tblVehicleTrips | SU_TR               | 26.73          | 11.19          |
| tblVehicleTrips | SU_TR               | 5.95           | 2.49           |
| tblVehicleTrips | SU_TR               | 25.24          | 10.57          |
| tblVehicleTrips | SU_TR               | 1.11           | 0.46           |
| tblVehicleTrips | SU_TR               | 20.43          | 8.56           |
| tblVehicleTrips | WD_TR               | 6.65           | 2.78           |
| tblVehicleTrips | WD_TR               | 10.71          | 4.49           |
| tblVehicleTrips | WD_TR               | 1.89           | 0.79           |
| tblVehicleTrips | WD_TR               | 32.93          | 13.79          |
| tblVehicleTrips | WD_TR               | 8.17           | 3.42           |
| tblVehicleTrips | WD_TR               | 42.70          | 17.88          |
| tblVehicleTrips | WD_TR               | 8.11           | 3.40           |
| tblVehicleTrips | WD_TR               | 44.32          | 18.56          |
| tblWater        | IndoorWaterUseRate  | 470,281,756.94 | 125,564,800.00 |
| tblWater        | IndoorWaterUseRate  | 32,307,758.82  | 3,431,000.00   |
| tblWater        | IndoorWaterUseRate  | 2,957,157.20   | 2,262,998.00   |
| tblWater        | IndoorWaterUseRate  | 5,580,689.40   | 16,424,741.00  |
| tblWater        | IndoorWaterUseRate  | 47,036,051.14  | 18,104,088.00  |
| tblWater        | IndoorWaterUseRate  | 132,019,824.82 | 13,916,355.00  |
| tblWater        | IndoorWaterUseRate  | 9,259,065.19   | 7,081,023.00   |
| tblWater        | OutdoorWaterUseRate | 296,481,977.20 | 79,159,747.00  |

Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

|               |                     |                |               |
|---------------|---------------------|----------------|---------------|
| tblWater      | OutdoorWaterUseRate | 2,062,197.37   | 219,000.00    |
| tblWater      | OutdoorWaterUseRate | 133,922,503.70 | 19,573,473.00 |
| tblWater      | OutdoorWaterUseRate | 1,812,451.19   | 1,387,002.00  |
| tblWater      | OutdoorWaterUseRate | 620,076.60     | 1,825,259.00  |
| tblWater      | OutdoorWaterUseRate | 28,828,547.47  | 11,095,912.00 |
| tblWater      | OutdoorWaterUseRate | 5,674,910.92   | 218,977.00    |
| tblWoodstoves | NumberCatalytic     | 144.36         | 0.00          |
| tblWoodstoves | NumberNoncatalytic  | 144.36         | 0.00          |
| tblWoodstoves | WoodstoveDayYear    | 14.12          | 0.00          |

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

[illegible]

Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

## 2.1 Overall Construction (Maximum Daily Emission)

### Mitigated Construction

[illegible][illegible]

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

**2.2 Overall Operational****Unmitigated Operational**

|              | ROG             | NOx             | CO                | SO2           | Fugitive PM10   | Exhaust PM10   | PM10 Total      | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2      | NBio- CO2           | Total CO2           | CH4            | N2O           | CO2e                |
|--------------|-----------------|-----------------|-------------------|---------------|-----------------|----------------|-----------------|----------------|----------------|----------------|---------------|---------------------|---------------------|----------------|---------------|---------------------|
| Category     | lb/day          |                 |                   |               |                 |                |                 |                |                |                | lb/day        |                     |                     |                |               |                     |
| Area         | 199.0706        | 166.5032        | 663.0993          | 1.0506        |                 | 16.2143        | 16.2143         |                | 16.2143        | 16.2143        | 0.0000        | 204,877.2850        | 204,877.2850        | 4.9347         | 3.7364        | 206,114.0930        |
| Energy       | 2.4147          | 20.9366         | 10.9923           | 0.1317        |                 | 1.6684         | 1.6684          |                | 1.6684         | 1.6684         |               | 26,342.5846         | 26,342.5846         | 0.5049         | 0.4830        | 26,499.1254         |
| Mobile       | 32.0333         | 146.1365        | 373.9038          | 1.6500        | 192.0443        | 1.2169         | 193.2612        | 51.4928        | 1.1339         | 52.6267        |               | 168,684.3291        | 168,684.3291        | 6.6164         |               | 168,849.7378        |
| <b>Total</b> | <b>233.5187</b> | <b>333.5762</b> | <b>1,047.9954</b> | <b>2.8323</b> | <b>192.0443</b> | <b>19.0996</b> | <b>211.1439</b> | <b>51.4928</b> | <b>19.0166</b> | <b>70.5093</b> | <b>0.0000</b> | <b>399,904.1987</b> | <b>399,904.1987</b> | <b>12.0560</b> | <b>4.2193</b> | <b>401,462.9562</b> |

**Mitigated Operational**

|              | ROG             | NOx             | CO                | SO2           | Fugitive PM10   | Exhaust PM10   | PM10 Total      | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2      | NBio- CO2           | Total CO2           | CH4            | N2O           | CO2e                |
|--------------|-----------------|-----------------|-------------------|---------------|-----------------|----------------|-----------------|----------------|----------------|----------------|---------------|---------------------|---------------------|----------------|---------------|---------------------|
| Category     | lb/day          |                 |                   |               |                 |                |                 |                |                |                | lb/day        |                     |                     |                |               |                     |
| Area         | 199.0706        | 166.5032        | 663.0993          | 1.0506        |                 | 16.2143        | 16.2143         |                | 16.2143        | 16.2143        | 0.0000        | 204,877.2850        | 204,877.2850        | 4.9347         | 3.7364        | 206,114.0930        |
| Energy       | 2.4147          | 20.9366         | 10.9923           | 0.1317        |                 | 1.6684         | 1.6684          |                | 1.6684         | 1.6684         |               | 26,342.5846         | 26,342.5846         | 0.5049         | 0.4830        | 26,499.1254         |
| Mobile       | 32.0333         | 146.1365        | 373.9038          | 1.6500        | 192.0443        | 1.2169         | 193.2612        | 51.4928        | 1.1339         | 52.6267        |               | 168,684.3291        | 168,684.3291        | 6.6164         |               | 168,849.7378        |
| <b>Total</b> | <b>233.5187</b> | <b>333.5762</b> | <b>1,047.9954</b> | <b>2.8323</b> | <b>192.0443</b> | <b>19.0996</b> | <b>211.1439</b> | <b>51.4928</b> | <b>19.0166</b> | <b>70.5093</b> | <b>0.0000</b> | <b>399,904.1987</b> | <b>399,904.1987</b> | <b>12.0560</b> | <b>4.2193</b> | <b>401,462.9562</b> |

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

### 3.0 Construction Detail

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#### Construction Phase

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date   | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1            | Demolition            | Demolition            | 1/1/2018   | 12/31/2017 | 5             | 0        |                   |
| 2            | Site Preparation      | Site Preparation      | 2/23/2019  | 2/22/2019  | 5             | 0        |                   |
| 3            | Grading               | Grading               | 11/2/2019  | 11/1/2019  | 5             | 0        |                   |
| 4            | Building Construction | Building Construction | 8/14/2021  | 8/13/2021  | 5             | 0        |                   |
| 5            | Paving                | Paving                | 6/11/2039  | 6/10/2039  | 5             | 0        |                   |
| 6            | Architectural Coating | Architectural Coating | 9/15/2040  | 9/14/2040  | 5             | 0        |                   |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 1162.5**

**Acres of Paving: 47.45**

**Residential Indoor: 14,616,450; Residential Outdoor: 4,872,150; Non-Residential Indoor: 1,955,250; Non-Residential Outdoor: 651,750; Striped Parking Area: 258,408 (Architectural Coating – sqft)**

#### OffRoad Equipment

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

| Phase Name            | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Demolition            | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |
| Demolition            | Excavators                | 3      | 8.00        | 158         | 0.38        |
| Demolition            | Rubber Tired Dozers       | 2      | 8.00        | 247         | 0.40        |
| Site Preparation      | Rubber Tired Dozers       | 3      | 8.00        | 247         | 0.40        |
| Site Preparation      | Tractors/Loaders/Backhoes | 4      | 8.00        | 97          | 0.37        |
| Grading               | Excavators                | 2      | 8.00        | 158         | 0.38        |
| Grading               | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Grading               | Rubber Tired Dozers       | 1      | 8.00        | 247         | 0.40        |
| Grading               | Scrapers                  | 2      | 8.00        | 367         | 0.48        |
| Grading               | Tractors/Loaders/Backhoes | 2      | 8.00        | 97          | 0.37        |
| Building Construction | Cranes                    | 1      | 7.00        | 231         | 0.29        |
| Building Construction | Forklifts                 | 3      | 8.00        | 89          | 0.20        |
| Building Construction | Generator Sets            | 1      | 8.00        | 84          | 0.74        |
| Building Construction | Tractors/Loaders/Backhoes | 3      | 7.00        | 97          | 0.37        |
| Building Construction | Welders                   | 1      | 8.00        | 46          | 0.45        |
| Paving                | Pavers                    | 2      | 8.00        | 130         | 0.42        |
| Paving                | Paving Equipment          | 2      | 8.00        | 132         | 0.36        |
| Paving                | Rollers                   | 2      | 8.00        | 80          | 0.38        |
| Architectural Coating | Air Compressors           | 1      | 6.00        | 78          | 0.48        |

Trips and VMT

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition            | 6                       | 15.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 7                       | 18.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Grading               | 8                       | 20.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 9                       | 9,469.00           | 2,474.00           | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Paving                | 6                       | 15.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 1                       | 1,894.00           | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

### 3.1 Mitigation Measures Construction

### 3.3 Site Preparation - 2019

### Unmitigated Construction On-Site

[illegible]



## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

### 3.3 Site Preparation - 2019

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

### 3.3 Site Preparation - 2019

### Mitigated Construction Off-Site

[illegible]

### 3.4 Grading - 2019

### Unmitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

### 3.4 Grading - 2019

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

### 3.4 Grading - 2019

### Mitigated Construction Off-Site

[illegible]

### 3.5 Building Construction - 2021

### Unmitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

### 3.5 Building Construction - 2021

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

### 3.5 Building Construction - 2021

### Mitigated Construction Off-Site

[illegible]

### 3.6 Paving - 2039

### Unmitigated Construction On-Site

[illegible]

Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

### 3.6 Paving - 2039

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

### 3.6 Paving - 2039

### Mitigated Construction Off-Site

[illegible]

### 3.7 Architectural Coating - 2040

### Unmitigated Construction On-Site

[illegible]



## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

### 3.7 Architectural Coating - 2040

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

**3.7 Architectural Coating - 2040****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

|             | ROG     | NOx      | CO       | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2        | Total CO2        | CH4    | N2O | CO2e             |
|-------------|---------|----------|----------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------------|------------------|--------|-----|------------------|
| Category    | lb/day  |          |          |        |               |              |            |                |               |             | lb/day   |                  |                  |        |     |                  |
| Mitigated   | 32.0333 | 146.1365 | 373.9038 | 1.6500 | 192.0443      | 1.2169       | 193.2612   | 51.4928        | 1.1339        | 52.6267     |          | 168,684.3<br>291 | 168,684.3<br>291 | 6.6164 |     | 168,849.7<br>378 |
| Unmitigated | 32.0333 | 146.1365 | 373.9038 | 1.6500 | 192.0443      | 1.2169       | 193.2612   | 51.4928        | 1.1339        | 52.6267     |          | 168,684.3<br>291 | 168,684.3<br>291 | 6.6164 |     | 168,849.7<br>378 |

## 4.2 Trip Summary Information

| Land Use                     | Average Daily Trip Rate |           |           | Unmitigated | Mitigated  |
|------------------------------|-------------------------|-----------|-----------|-------------|------------|
|                              | Weekday                 | Saturday  | Sunday    | Annual VMT  | Annual VMT |
| Apartments Mid Rise          | 20,066.04               | 19,344.24 | 17684.10  | 53,859,376  | 53,859,376 |
| Arena                        | 336.75                  | 336.75    | 336.75    | 662,896     | 662,896    |
| City Park                    | 88.80                   | 1,071.17  | 787.92    | 708,247     | 708,247    |
| Enclosed Parking Structure   | 0.00                    | 0.00      | 0.00      |             |            |
| Health Club                  | 689.50                  | 23.00     | 559.50    | 1,005,396   | 1,005,396  |
| Hotel                        | 752.40                  | 754.60    | 547.80    | 1,388,900   | 1,388,900  |
| Parking Lot                  | 0.00                    | 0.00      | 0.00      |             |            |
| Regional Shopping Center     | 11,353.80               | 13,290.55 | 6711.95   | 19,438,793  | 19,438,793 |
| Research & Development       | 912.90                  | 214.80    | 123.51    | 1,770,027   | 1,770,027  |
| Strip Mall                   | 2,320.00                | 2,201.25  | 1070.00   | 3,307,217   | 3,307,217  |
| Unenclosed Parking Structure | 0.00                    | 0.00      | 0.00      |             |            |
| Total                        | 36,520.19               | 37,236.36 | 27,821.53 | 82,140,852  | 82,140,852 |

## 4.3 Trip Type Information

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

| Land Use                     | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                              | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Apartments Mid Rise          | 10.80      | 7.30       | 7.50        | 31.00      | 15.00      | 54.00       | 86             | 11       | 3       |
| Arena                        | 9.50       | 7.40       | 7.40        | 0.00       | 81.00      | 19.00       | 66             | 28       | 6       |
| City Park                    | 9.50       | 7.40       | 7.40        | 33.00      | 48.00      | 19.00       | 66             | 28       | 6       |
| Enclosed Parking Structure   | 9.50       | 7.40       | 7.40        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Health Club                  | 9.50       | 7.40       | 7.40        | 16.90      | 64.10      | 19.00       | 52             | 39       | 9       |
| Hotel                        | 9.50       | 7.40       | 7.40        | 19.40      | 61.60      | 19.00       | 58             | 38       | 4       |
| Parking Lot                  | 9.50       | 7.40       | 7.40        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Regional Shopping Center     | 9.50       | 7.40       | 7.40        | 16.30      | 64.70      | 19.00       | 54             | 35       | 11      |
| Research & Development       | 9.50       | 7.40       | 7.40        | 33.00      | 48.00      | 19.00       | 82             | 15       | 3       |
| Strip Mall                   | 9.50       | 7.40       | 7.40        | 16.60      | 64.40      | 19.00       | 45             | 40       | 15      |
| Unenclosed Parking Structure | 9.50       | 7.40       | 7.40        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |

## 4.4 Fleet Mix

| Land Use                     | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Apartments Mid Rise          | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Arena                        | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| City Park                    | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Enclosed Parking Structure   | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Health Club                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Hotel                        | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Parking Lot                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Regional Shopping Center     | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Research & Development       | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Strip Mall                   | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Unenclosed Parking Structure | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |

## 5.0 Energy Detail

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

|                        | ROG    | NOx     | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4    | N2O    | CO2e        |
|------------------------|--------|---------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|--------|-------------|
| Category               | lb/day |         |         |        |               |              |            |                |               |             | lb/day   |             |             |        |        |             |
| NaturalGas Mitigated   | 2.4147 | 20.9366 | 10.9923 | 0.1317 |               | 1.6684       | 1.6684     |                | 1.6684        | 1.6684      |          | 26,342.5846 | 26,342.5846 | 0.5049 | 0.4830 | 26,499.1254 |
| NaturalGas Unmitigated | 2.4147 | 20.9366 | 10.9923 | 0.1317 |               | 1.6684       | 1.6684     |                | 1.6684        | 1.6684      |          | 26,342.5846 | 26,342.5846 | 0.5049 | 0.4830 | 26,499.1254 |

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

**5.2 Energy by Land Use - NaturalGas****Unmitigated**

|                              | NaturalGas Use | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|------------------------------|----------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|---------------|--------------------|
| Land Use                     | kBTU/yr        | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                    |                    |               |               |                    |
| Apartments Mid Rise          | 172647         | 1.8619        | 15.9106        | 6.7705         | 0.1016        |               | 1.2864        | 1.2864        |                | 1.2864        | 1.2864        |          | 20,311.4404        | 20,311.4404        | 0.3893        | 0.3724        | 20,432.1411        |
| Arena                        | 5085.62        | 0.0548        | 0.4986         | 0.4188         | 2.9900e-003   |               | 0.0379        | 0.0379        |                | 0.0379        | 0.0379        |          | 598.3078           | 598.3078           | 0.0115        | 0.0110        | 601.8633           |
| City Park                    | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Enclosed Parking Structure   | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Health Club                  | 3390.41        | 0.0366        | 0.3324         | 0.2792         | 1.9900e-003   |               | 0.0253        | 0.0253        |                | 0.0253        | 0.0253        |          | 398.8719           | 398.8719           | 7.6500e-003   | 7.3100e-003   | 401.2422           |
| Hotel                        | 15004.1        | 0.1618        | 1.4710         | 1.2356         | 8.8300e-003   |               | 0.1118        | 0.1118        |                | 0.1118        | 0.1118        |          | 1,765.1894         | 1,765.1894         | 0.0338        | 0.0324        | 1,775.6790         |
| Parking Lot                  | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Regional Shopping Center     | 8002.74        | 0.0863        | 0.7846         | 0.6591         | 4.7100e-003   |               | 0.0596        | 0.0596        |                | 0.0596        | 0.0596        |          | 941.4988           | 941.4988           | 0.0181        | 0.0173        | 947.0937           |
| Research & Development       | 18206.5        | 0.1963        | 1.7850         | 1.4994         | 0.0107        |               | 0.1357        | 0.1357        |                | 0.1357        | 0.1357        |          | 2,141.9420         | 2,141.9420         | 0.0411        | 0.0393        | 2,154.6705         |
| Strip Mall                   | 1575.34        | 0.0170        | 0.1545         | 0.1297         | 9.3000e-004   |               | 0.0117        | 0.0117        |                | 0.0117        | 0.0117        |          | 185.3344           | 185.3344           | 3.5500e-003   | 3.4000e-003   | 186.4358           |
| Unenclosed Parking Structure | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| <b>Total</b>                 |                | <b>2.4147</b> | <b>20.9366</b> | <b>10.9923</b> | <b>0.1317</b> |               | <b>1.6684</b> | <b>1.6684</b> |                | <b>1.6684</b> | <b>1.6684</b> |          | <b>26,342.5846</b> | <b>26,342.5846</b> | <b>0.5049</b> | <b>0.4830</b> | <b>26,499.1254</b> |

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

**5.2 Energy by Land Use - NaturalGas****Mitigated**

|                              | NaturalGas Use | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|------------------------------|----------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|---------------|--------------------|
| Land Use                     | kBTU/yr        | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                    |                    |               |               |                    |
| Apartments Mid Rise          | 172.647        | 1.8619        | 15.9106        | 6.7705         | 0.1016        |               | 1.2864        | 1.2864        |                | 1.2864        | 1.2864        |          | 20,311.4404        | 20,311.4404        | 0.3893        | 0.3724        | 20,432.1411        |
| Arena                        | 5.08562        | 0.0548        | 0.4986         | 0.4188         | 2.9900e-003   |               | 0.0379        | 0.0379        |                | 0.0379        | 0.0379        |          | 598.3078           | 598.3078           | 0.0115        | 0.0110        | 601.8633           |
| City Park                    | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Enclosed Parking Structure   | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Health Club                  | 3.39041        | 0.0366        | 0.3324         | 0.2792         | 1.9900e-003   |               | 0.0253        | 0.0253        |                | 0.0253        | 0.0253        |          | 398.8719           | 398.8719           | 7.6500e-003   | 7.3100e-003   | 401.2422           |
| Hotel                        | 15.0041        | 0.1618        | 1.4710         | 1.2356         | 8.8300e-003   |               | 0.1118        | 0.1118        |                | 0.1118        | 0.1118        |          | 1,765.1894         | 1,765.1894         | 0.0338        | 0.0324        | 1,775.6790         |
| Parking Lot                  | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Regional Shopping Center     | 8.00274        | 0.0863        | 0.7846         | 0.6591         | 4.7100e-003   |               | 0.0596        | 0.0596        |                | 0.0596        | 0.0596        |          | 941.4988           | 941.4988           | 0.0181        | 0.0173        | 947.0937           |
| Research & Development       | 18.2065        | 0.1963        | 1.7850         | 1.4994         | 0.0107        |               | 0.1357        | 0.1357        |                | 0.1357        | 0.1357        |          | 2,141.9420         | 2,141.9420         | 0.0411        | 0.0393        | 2,154.6705         |
| Strip Mall                   | 1.57534        | 0.0170        | 0.1545         | 0.1297         | 9.3000e-004   |               | 0.0117        | 0.0117        |                | 0.0117        | 0.0117        |          | 185.3344           | 185.3344           | 3.5500e-003   | 3.4000e-003   | 186.4358           |
| Unenclosed Parking Structure | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| <b>Total</b>                 |                | <b>2.4147</b> | <b>20.9366</b> | <b>10.9923</b> | <b>0.1317</b> |               | <b>1.6684</b> | <b>1.6684</b> |                | <b>1.6684</b> | <b>1.6684</b> |          | <b>26,342.5846</b> | <b>26,342.5846</b> | <b>0.5049</b> | <b>0.4830</b> | <b>26,499.1254</b> |

**6.0 Area Detail****6.1 Mitigation Measures Area**

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

|             | ROG      | NOx      | CO       | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2    | Total CO2    | CH4    | N2O    | CO2e         |
|-------------|----------|----------|----------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|--------------|--------------|--------|--------|--------------|
| Category    | lb/day   |          |          |        |               |              |            |                |               |             | lb/day   |              |              |        |        |              |
| Mitigated   | 199.0706 | 166.5032 | 663.0993 | 1.0506 |               | 16.2143      | 16.2143    |                | 16.2143       | 16.2143     | 0.0000   | 204,877.2850 | 204,877.2850 | 4.9347 | 3.7364 | 206,114.0930 |
| Unmitigated | 199.0706 | 166.5032 | 663.0993 | 1.0506 |               | 16.2143      | 16.2143    |                | 16.2143       | 16.2143     | 0.0000   | 204,877.2850 | 204,877.2850 | 4.9347 | 3.7364 | 206,114.0930 |

## 6.2 Area by SubCategory

Unmitigated

|                       | ROG             | NOx             | CO              | SO2           | Fugitive PM10 | Exhaust PM10   | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2      | NBio- CO2           | Total CO2           | CH4           | N2O           | CO2e                |
|-----------------------|-----------------|-----------------|-----------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------------|---------------------|---------------|---------------|---------------------|
| SubCategory           | lb/day          |                 |                 |               |               |                |                |                |                |                | lb/day        |                     |                     |               |               |                     |
| Architectural Coating | 32.0579         |                 |                 |               |               | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         |               |                     | 0.0000              |               |               | 0.0000              |
| Consumer Products     | 130.4524        |                 |                 |               |               | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         |               |                     | 0.0000              |               |               | 0.0000              |
| Hearth                | 18.6819         | 159.6452        | 67.9341         | 1.0190        |               | 12.9075        | 12.9075        |                | 12.9075        | 12.9075        | 0.0000        | 203,802.3529        | 203,802.3529        | 3.9062        | 3.7364        | 205,013.4484        |
| Landscaping           | 17.8785         | 6.8580          | 595.1652        | 0.0315        |               | 3.3068         | 3.3068         |                | 3.3068         | 3.3068         |               | 1,074.9321          | 1,074.9321          | 1.0285        |               | 1,100.6446          |
| <b>Total</b>          | <b>199.0706</b> | <b>166.5032</b> | <b>663.0993</b> | <b>1.0506</b> |               | <b>16.2143</b> | <b>16.2143</b> |                | <b>16.2143</b> | <b>16.2143</b> | <b>0.0000</b> | <b>204,877.2850</b> | <b>204,877.2850</b> | <b>4.9347</b> | <b>3.7364</b> | <b>206,114.0930</b> |



## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

**6.2 Area by SubCategory****Mitigated**

|                       | ROG             | NOx             | CO              | SO2           | Fugitive PM10 | Exhaust PM10   | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2      | NBio- CO2           | Total CO2           | CH4           | N2O           | CO2e                |
|-----------------------|-----------------|-----------------|-----------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------------|---------------------|---------------|---------------|---------------------|
| SubCategory           | lb/day          |                 |                 |               |               |                |                |                |                |                | lb/day        |                     |                     |               |               |                     |
| Architectural Coating | 32.0579         |                 |                 |               |               | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         |               |                     | 0.0000              |               |               | 0.0000              |
| Consumer Products     | 130.4524        |                 |                 |               |               | 0.0000         | 0.0000         |                | 0.0000         | 0.0000         |               |                     | 0.0000              |               |               | 0.0000              |
| Hearth                | 18.6819         | 159.6452        | 67.9341         | 1.0190        |               | 12.9075        | 12.9075        |                | 12.9075        | 12.9075        | 0.0000        | 203,802.3529        | 203,802.3529        | 3.9062        | 3.7364        | 205,013.4484        |
| Landscaping           | 17.8785         | 6.8580          | 595.1652        | 0.0315        |               | 3.3068         | 3.3068         |                | 3.3068         | 3.3068         |               | 1,074.9321          | 1,074.9321          | 1.0285        |               | 1,100.6446          |
| <b>Total</b>          | <b>199.0706</b> | <b>166.5032</b> | <b>663.0993</b> | <b>1.0506</b> |               | <b>16.2143</b> | <b>16.2143</b> |                | <b>16.2143</b> | <b>16.2143</b> | <b>0.0000</b> | <b>204,877.2850</b> | <b>204,877.2850</b> | <b>4.9347</b> | <b>3.7364</b> | <b>206,114.0930</b> |

**7.0 Water Detail****7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

## Candlestick Point - Operational - CAP Analysis - San Francisco County, Winter

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

## Candlestick Point - Operational - GHG Analysis

### San Francisco County, Annual

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses                    | Size     | Metric        | Lot Acreage | Floor Surface Area | Population |
|------------------------------|----------|---------------|-------------|--------------------|------------|
| Research & Development       | 268.50   | 1000sqft      | 3.02        | 268,500.00         | 0          |
| Enclosed Parking Structure   | 7,218.00 | Space         | 31.81       | 2,887,200.00       | 0          |
| Parking Lot                  | 1,360.00 | Space         | 5.99        | 544,000.00         | 0          |
| Unenclosed Parking Structure | 2,189.00 | Space         | 9.65        | 875,600.00         | 0          |
| Arena                        | 75.00    | 1000sqft      | 11.81       | 75,000.00          | 0          |
| City Park                    | 112.40   | Acre          | 112.40      | 4,896,144.00       | 0          |
| Health Club                  | 50.00    | 1000sqft      | 0.56        | 50,000.00          | 0          |
| Hotel                        | 220.00   | Room          | 3.59        | 150,000.00         | 0          |
| Apartments Mid Rise          | 7,218.00 | Dwelling Unit | 93.01       | 7,218,000.00       | 20643      |
| Regional Shopping Center     | 635.00   | 1000sqft      | 7.76        | 635,000.00         | 0          |
| Strip Mall                   | 125.00   | 1000sqft      | 1.41        | 125,000.00         | 0          |

### 1.2 Other Project Characteristics

|                         |                                |                         |       |                           |       |
|-------------------------|--------------------------------|-------------------------|-------|---------------------------|-------|
| Urbanization            | Urban                          | Wind Speed (m/s)        | 4.6   | Precipitation Freq (Days) | 64    |
| Climate Zone            | 5                              |                         |       | Operational Year          | 2032  |
| Utility Company         | Pacific Gas & Electric Company |                         |       |                           |       |
| CO2 Intensity (lb/MWhr) | 286.7                          | CH4 Intensity (lb/MWhr) | 0.029 | N2O Intensity (lb/MWhr)   | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

Project Characteristics - Assumed construction start date is 01/01/2018.

CO2 emissions intensity for 2032 based on a 50% RPS for 2030, calculated by averaging CO2 intensity for 2013, 2014 and 2015 as the baseline.

CH4 and N2O intensity is similar to PG&E.

Land Use - Land uses based on information provided by Client. Total acreage in EIR is 281. Lot acreages have been scaled down accordingly. Acreage for city park remains the same. Assumed zero building area in city parks.

Construction Phase - Zero'ed out construction since this was calculated separately.

Trips and VMT - Not modifying anything here since construction is modeled separately.

On-road Fugitive Dust - Not modifying anything here since construction is modeled separately.

Demolition - Not modifying anything here since construction is modeled separately.

Grading - Not modifying anything here since construction is modeled separately.

Architectural Coating - Not modifying anything here since construction is modeled separately.

Vehicle Trips - Trip rates calculated based on study by F&P. Adjusted total trips are calculated based on CalEEMod default trip generation rates. Trip lengths are from EIR AQ section for Candlestick point.

Woodstoves - No wood-stoves in project location. Assuming there are 7218 natural gas fireplaces, that operate for 4 hours a day for 50 days (200 hours/year).

Consumer Products - ROG emissions factor for consumer products is for the city of San Francisco

Energy Use -

Water And Wastewater - Total water usage is based on EIR for Candlestick point. Indoor and outdoor water usage is calculated based on CalEEMOD ratio.

Solid Waste - Solid waste generation rate is based on EIR waste disposal rate for Candlestick point.

| Table Name           | Column Name      | Default Value | New Value |
|----------------------|------------------|---------------|-----------|
| tblConstructionPhase | NumDays          | 330.00        | 0.00      |
| tblConstructionPhase | NumDays          | 4,650.00      | 0.00      |
| tblConstructionPhase | NumDays          | 300.00        | 0.00      |
| tblConstructionPhase | NumDays          | 465.00        | 0.00      |
| tblConstructionPhase | NumDays          | 330.00        | 0.00      |
| tblConstructionPhase | NumDays          | 180.00        | 0.00      |
| tblConsumerProducts  | ROG_EF           | 2.14E-05      | 1.51E-05  |
| tblFireplaces        | FireplaceDayYear | 11.14         | 50.00     |
| tblFireplaces        | FireplaceHourDay | 3.50          | 4.00      |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

|                           |                          |            |            |
|---------------------------|--------------------------|------------|------------|
| tblFireplaces             | FireplaceWoodMass        | 228.80     | 0.00       |
| tblFireplaces             | NumberGas                | 1,082.70   | 7,218.00   |
| tblFireplaces             | NumberNoFireplace        | 288.72     | 0.00       |
| tblFireplaces             | NumberWood               | 1,227.06   | 0.00       |
| tblGrading                | AcresOfGrading           | 0.00       | 1,162.50   |
| tblLandUse                | LandUseSquareFeet        | 319,440.00 | 150,000.00 |
| tblLandUse                | LotAcreage               | 6.16       | 3.02       |
| tblLandUse                | LotAcreage               | 64.96      | 31.81      |
| tblLandUse                | LotAcreage               | 12.24      | 5.99       |
| tblLandUse                | LotAcreage               | 19.70      | 9.65       |
| tblLandUse                | LotAcreage               | 24.11      | 11.81      |
| tblLandUse                | LotAcreage               | 1.15       | 0.56       |
| tblLandUse                | LotAcreage               | 7.33       | 3.59       |
| tblLandUse                | LotAcreage               | 189.95     | 93.01      |
| tblLandUse                | LotAcreage               | 14.58      | 7.76       |
| tblLandUse                | LotAcreage               | 2.87       | 1.41       |
| tblProjectCharacteristics | CO2IntensityFactor       | 641.35     | 286.7      |
| tblSequestration          | NumberOfNewTrees         | 0.00       | 5,000.00   |
| tblSolidWaste             | SolidWasteGenerationRate | 3,320.28   | 7,062.81   |
| tblSolidWaste             | SolidWasteGenerationRate | 2.06       | 645.00     |
| tblSolidWaste             | SolidWasteGenerationRate | 9.67       | 10.12      |
| tblSolidWaste             | SolidWasteGenerationRate | 285.00     | 46.75      |
| tblSolidWaste             | SolidWasteGenerationRate | 120.45     | 202.40     |
| tblSolidWaste             | SolidWasteGenerationRate | 20.40      | 294.01     |
| tblTripsAndVMT            | VendorTripNumber         | 2,494.00   | 2,474.00   |
| tblTripsAndVMT            | WorkerTripNumber         | 9,507.00   | 9,469.00   |
| tblTripsAndVMT            | WorkerTripNumber         | 1,901.00   | 1,894.00   |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

[illegible]

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

|                 |       |       |       |
|-----------------|-------|-------|-------|
| tblVehicleTrips | CW_TL | 9.50  | 14.90 |
| tblVehicleTrips | CW_TL | 9.50  | 14.90 |
| tblVehicleTrips | CW_TL | 9.50  | 14.90 |
| tblVehicleTrips | HO_TL | 5.70  | 9.10  |
| tblVehicleTrips | HS_TL | 4.80  | 9.50  |
| tblVehicleTrips | HW_TL | 10.80 | 14.90 |
| tblVehicleTrips | ST_TR | 6.39  | 2.68  |
| tblVehicleTrips | ST_TR | 10.71 | 4.49  |
| tblVehicleTrips | ST_TR | 22.75 | 9.53  |
| tblVehicleTrips | ST_TR | 20.87 | 0.46  |
| tblVehicleTrips | ST_TR | 8.19  | 3.43  |
| tblVehicleTrips | ST_TR | 49.97 | 20.93 |
| tblVehicleTrips | ST_TR | 1.90  | 0.80  |
| tblVehicleTrips | ST_TR | 42.04 | 17.61 |
| tblVehicleTrips | SU_TR | 5.86  | 2.45  |
| tblVehicleTrips | SU_TR | 10.71 | 4.49  |
| tblVehicleTrips | SU_TR | 16.74 | 7.01  |
| tblVehicleTrips | SU_TR | 26.73 | 11.19 |
| tblVehicleTrips | SU_TR | 5.95  | 2.49  |
| tblVehicleTrips | SU_TR | 25.24 | 10.57 |
| tblVehicleTrips | SU_TR | 1.11  | 0.46  |
| tblVehicleTrips | SU_TR | 20.43 | 8.56  |
| tblVehicleTrips | WD_TR | 6.65  | 2.78  |
| tblVehicleTrips | WD_TR | 10.71 | 4.49  |
| tblVehicleTrips | WD_TR | 1.89  | 0.79  |
| tblVehicleTrips | WD_TR | 32.93 | 13.79 |
| tblVehicleTrips | WD_TR | 8.17  | 3.42  |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

|                 |                     |                |                |
|-----------------|---------------------|----------------|----------------|
| tblVehicleTrips | WD_TR               | 42.70          | 17.88          |
| tblVehicleTrips | WD_TR               | 8.11           | 3.40           |
| tblVehicleTrips | WD_TR               | 44.32          | 18.56          |
| tblWater        | IndoorWaterUseRate  | 470,281,756.94 | 125,564,800.00 |
| tblWater        | IndoorWaterUseRate  | 32,307,758.82  | 3,431,000.00   |
| tblWater        | IndoorWaterUseRate  | 2,957,157.20   | 2,262,998.00   |
| tblWater        | IndoorWaterUseRate  | 5,580,689.40   | 16,424,741.00  |
| tblWater        | IndoorWaterUseRate  | 47,036,051.14  | 18,104,088.00  |
| tblWater        | IndoorWaterUseRate  | 132,019,824.82 | 13,916,355.00  |
| tblWater        | IndoorWaterUseRate  | 9,259,065.19   | 7,081,023.00   |
| tblWater        | OutdoorWaterUseRate | 296,481,977.20 | 79,159,747.00  |
| tblWater        | OutdoorWaterUseRate | 2,062,197.37   | 219,000.00     |
| tblWater        | OutdoorWaterUseRate | 133,922,503.70 | 19,573,473.00  |
| tblWater        | OutdoorWaterUseRate | 1,812,451.19   | 1,387,002.00   |
| tblWater        | OutdoorWaterUseRate | 620,076.60     | 1,825,259.00   |
| tblWater        | OutdoorWaterUseRate | 28,828,547.47  | 11,095,912.00  |
| tblWater        | OutdoorWaterUseRate | 5,674,910.92   | 218,977.00     |
| tblWoodstoves   | NumberCatalytic     | 144.36         | 0.00           |
| tblWoodstoves   | NumberNoncatalytic  | 144.36         | 0.00           |
| tblWoodstoves   | WoodstoveDayYear    | 14.12          | 0.00           |

## 2.0 Emissions Summary

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## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

## 2.1 Overall Construction

### Unmitigated Construction

[illegible]

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**2.1 Overall Construction****Mitigated Construction**

|         | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e   |
|---------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Year    | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |           |           |        |        |        |
| 2019    | 0.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| 2021    | 0.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| 2039    | 0.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| 2040    | 0.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Maximum | 0.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|----------|----------------------------------------------|--------------------------------------------|
|         |            | Highest  |                                              |                                            |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**2.2 Overall Operational****Unmitigated Operational**

|              | ROG            | NOx            | CO              | SO2           | Fugitive PM10  | Exhaust PM10  | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total    | Bio- CO2               | NBio- CO2               | Total CO2               | CH4             | N2O           | CO2e                    |
|--------------|----------------|----------------|-----------------|---------------|----------------|---------------|----------------|----------------|---------------|----------------|------------------------|-------------------------|-------------------------|-----------------|---------------|-------------------------|
| Category     | tons/yr        |                |                 |               |                |               |                |                |               |                | MT/yr                  |                         |                         |                 |               |                         |
| Area         | 31.7342        | 4.6084         | 55.2632         | 0.0283        |                | 0.6203        | 0.6203         |                | 0.6203        | 0.6203         | 0.0000                 | 4,709.924<br>2          | 4,709.924<br>2          | 0.1726          | 0.0847        | 4,739.490<br>7          |
| Energy       | 0.4407         | 3.8209         | 2.0061          | 0.0240        |                | 0.3045        | 0.3045         |                | 0.3045        | 0.3045         | 0.0000                 | 12,259.27<br>82         | 12,259.27<br>82         | 0.8825          | 0.2452        | 12,354.42<br>30         |
| Mobile       | 5.9708         | 26.9631        | 73.8591         | 0.3539        | 39.9953        | 0.2546        | 40.2499        | 10.7591        | 0.2373        | 10.9964        | 0.0000                 | 32,819.32<br>12         | 32,819.32<br>12         | 1.2397          | 0.0000        | 32,850.31<br>44         |
| Waste        |                |                |                 |               |                | 0.0000        | 0.0000         |                | 0.0000        | 0.0000         | 1,838.912<br>9         | 0.0000                  | 1,838.912<br>9          | 108.6766        | 0.0000        | 4,555.828<br>9          |
| Water        |                |                |                 |               |                | 0.0000        | 0.0000         |                | 0.0000        | 0.0000         | 59.2583                | 183.0866                | 242.3448                | 6.1049          | 0.1475        | 438.9359                |
| <b>Total</b> | <b>38.1458</b> | <b>35.3924</b> | <b>131.1284</b> | <b>0.4062</b> | <b>39.9953</b> | <b>1.1794</b> | <b>41.1747</b> | <b>10.7591</b> | <b>1.1621</b> | <b>11.9212</b> | <b>1,898.171<br/>2</b> | <b>49,971.61<br/>01</b> | <b>51,869.78<br/>12</b> | <b>117.0763</b> | <b>0.4775</b> | <b>54,938.99<br/>28</b> |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

## 2.2 Overall Operational

**Mitigated Operational**

|          | ROG     | NOx     | CO       | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2   | NBio- CO2   | Total CO2   | CH4      | N2O    | CO2e        |
|----------|---------|---------|----------|--------|---------------|--------------|------------|----------------|---------------|-------------|------------|-------------|-------------|----------|--------|-------------|
| Category | tons/yr |         |          |        |               |              |            |                |               |             | MT/yr      |             |             |          |        |             |
| Area     | 31.7342 | 4.6084  | 55.2632  | 0.0283 |               | 0.6203       | 0.6203     |                | 0.6203        | 0.6203      | 0.0000     | 4,709.9242  | 4,709.9242  | 0.1726   | 0.0847 | 4,739.4907  |
| Energy   | 0.4407  | 3.8209  | 2.0061   | 0.0240 |               | 0.3045       | 0.3045     |                | 0.3045        | 0.3045      | 0.0000     | 12,259.2782 | 12,259.2782 | 0.8825   | 0.2452 | 12,354.4230 |
| Mobile   | 5.9708  | 26.9631 | 73.8591  | 0.3539 | 39.9953       | 0.2546       | 40.2499    | 10.7591        | 0.2373        | 10.9964     | 0.0000     | 32,819.3212 | 32,819.3212 | 1.2397   | 0.0000 | 32,850.3144 |
| Waste    |         |         |          |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 1,838.9129 | 0.0000      | 1,838.9129  | 108.6766 | 0.0000 | 4,555.8289  |
| Water    |         |         |          |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 59.2583    | 183.0866    | 242.3448    | 6.1049   | 0.1475 | 438.9359    |
| Total    | 38.1458 | 35.3924 | 131.1284 | 0.4062 | 39.9953       | 1.1794       | 41.1747    | 10.7591        | 1.1621        | 11.9212     | 1,898.1712 | 49,971.6101 | 51,869.7812 | 117.0763 | 0.4775 | 54,938.9928 |

[illegible]

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**2.3 Vegetation****Vegetation**

|           |                |
|-----------|----------------|
|           | CO2e           |
| Category  | MT             |
| New Trees | 3,670.000<br>0 |
| Total     | 3,670.000<br>0 |

**3.0 Construction Detail****Construction Phase**

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date   | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1            | Demolition            | Demolition            | 1/1/2018   | 12/31/2017 | 5             | 0        |                   |
| 2            | Site Preparation      | Site Preparation      | 2/23/2019  | 2/22/2019  | 5             | 0        |                   |
| 3            | Grading               | Grading               | 11/2/2019  | 11/1/2019  | 5             | 0        |                   |
| 4            | Building Construction | Building Construction | 8/14/2021  | 8/13/2021  | 5             | 0        |                   |
| 5            | Paving                | Paving                | 6/11/2039  | 6/10/2039  | 5             | 0        |                   |
| 6            | Architectural Coating | Architectural Coating | 9/15/2040  | 9/14/2040  | 5             | 0        |                   |

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 1162.5****Acres of Paving: 47.45**

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**Residential Indoor: 14,616,450; Residential Outdoor: 4,872,150; Non-Residential Indoor: 1,955,250; Non-Residential Outdoor: 651,750; Striped Parking Area: 258,408 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name            | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Demolition            | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |
| Demolition            | Excavators                | 3      | 8.00        | 158         | 0.38        |
| Demolition            | Rubber Tired Dozers       | 2      | 8.00        | 247         | 0.40        |
| Site Preparation      | Rubber Tired Dozers       | 3      | 8.00        | 247         | 0.40        |
| Site Preparation      | Tractors/Loaders/Backhoes | 4      | 8.00        | 97          | 0.37        |
| Grading               | Excavators                | 2      | 8.00        | 158         | 0.38        |
| Grading               | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Grading               | Rubber Tired Dozers       | 1      | 8.00        | 247         | 0.40        |
| Grading               | Scrapers                  | 2      | 8.00        | 367         | 0.48        |
| Grading               | Tractors/Loaders/Backhoes | 2      | 8.00        | 97          | 0.37        |
| Building Construction | Cranes                    | 1      | 7.00        | 231         | 0.29        |
| Building Construction | Forklifts                 | 3      | 8.00        | 89          | 0.20        |
| Building Construction | Generator Sets            | 1      | 8.00        | 84          | 0.74        |
| Building Construction | Tractors/Loaders/Backhoes | 3      | 7.00        | 97          | 0.37        |
| Building Construction | Welders                   | 1      | 8.00        | 46          | 0.45        |
| Paving                | Pavers                    | 2      | 8.00        | 130         | 0.42        |
| Paving                | Paving Equipment          | 2      | 8.00        | 132         | 0.36        |
| Paving                | Rollers                   | 2      | 8.00        | 80          | 0.38        |
| Architectural Coating | Air Compressors           | 1      | 6.00        | 78          | 0.48        |

**Trips and VMT**

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition            | 6                       | 15.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 7                       | 18.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Grading               | 8                       | 20.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 9                       | 9,469.00           | 2,474.00           | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Paving                | 6                       | 15.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 1                       | 1,894.00           | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

### 3.1 Mitigation Measures Construction

### 3.3 Site Preparation - 2019

### Unmitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

### 3.3 Site Preparation - 2019

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]



## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

### 3.3 Site Preparation - 2019

### Mitigated Construction Off-Site

[illegible]

### 3.4 Grading - 2019

### Unmitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

### 3.4 Grading - 2019

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

### 3.4 Grading - 2019

### Mitigated Construction Off-Site

[illegible]

### 3.5 Building Construction - 2021

### Unmitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

### 3.5 Building Construction - 2021

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

### 3.5 Building Construction - 2021

### Mitigated Construction Off-Site

[illegible]

### 3.6 Paving - 2039

### Unmitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

### 3.6 Paving - 2039

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

### 3.6 Paving - 2039

### Mitigated Construction Off-Site

[illegible]

### 3.7 Architectural Coating - 2040

### Unmitigated Construction On-Site

[illegible]

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

### 3.7 Architectural Coating - 2040

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]



## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**3.7 Architectural Coating - 2040****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

|             | ROG     | NOx     | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2       | Total CO2       | CH4    | N2O    | CO2e            |
|-------------|---------|---------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------------|-----------------|--------|--------|-----------------|
| Category    | tons/yr |         |         |        |               |              |            |                |               |             | MT/yr    |                 |                 |        |        |                 |
| Mitigated   | 5.9708  | 26.9631 | 73.8591 | 0.3539 | 39.9953       | 0.2546       | 40.2499    | 10.7591        | 0.2373        | 10.9964     | 0.0000   | 32,819.32<br>12 | 32,819.32<br>12 | 1.2397 | 0.0000 | 32,850.31<br>44 |
| Unmitigated | 5.9708  | 26.9631 | 73.8591 | 0.3539 | 39.9953       | 0.2546       | 40.2499    | 10.7591        | 0.2373        | 10.9964     | 0.0000   | 32,819.32<br>12 | 32,819.32<br>12 | 1.2397 | 0.0000 | 32,850.31<br>44 |

## 4.2 Trip Summary Information

| Land Use                     | Average Daily Trip Rate |           |           | Unmitigated | Mitigated   |
|------------------------------|-------------------------|-----------|-----------|-------------|-------------|
|                              | Weekday                 | Saturday  | Sunday    | Annual VMT  | Annual VMT  |
| Apartments Mid Rise          | 20,066.04               | 19,344.24 | 17684.10  | 69,485,249  | 69,485,249  |
| Arena                        | 336.75                  | 336.75    | 336.75    | 815,014     | 815,014     |
| City Park                    | 88.80                   | 1,071.17  | 787.92    | 980,400     | 980,400     |
| Enclosed Parking Structure   | 0.00                    | 0.00      | 0.00      |             |             |
| Health Club                  | 689.50                  | 23.00     | 559.50    | 1,339,476   | 1,339,476   |
| Hotel                        | 752.40                  | 754.60    | 547.80    | 1,862,490   | 1,862,490   |
| Parking Lot                  | 0.00                    | 0.00      | 0.00      |             |             |
| Regional Shopping Center     | 11,353.80               | 13,290.55 | 6711.95   | 25,856,491  | 25,856,491  |
| Research & Development       | 912.90                  | 214.80    | 123.51    | 2,450,579   | 2,450,579   |
| Strip Mall                   | 2,320.00                | 2,201.25  | 1070.00   | 4,401,049   | 4,401,049   |
| Unenclosed Parking Structure | 0.00                    | 0.00      | 0.00      |             |             |
| Total                        | 36,520.19               | 37,236.36 | 27,821.53 | 107,190,749 | 107,190,749 |

## 4.3 Trip Type Information

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

| Land Use                     | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                              | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Apartments Mid Rise          | 14.90      | 9.50       | 9.10        | 31.00      | 15.00      | 54.00       | 86             | 11       | 3       |
| Arena                        | 14.90      | 9.10       | 9.10        | 0.00       | 81.00      | 19.00       | 66             | 28       | 6       |
| City Park                    | 14.90      | 9.50       | 9.10        | 33.00      | 48.00      | 19.00       | 66             | 28       | 6       |
| Enclosed Parking Structure   | 14.90      | 9.50       | 9.10        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Health Club                  | 14.90      | 9.50       | 9.10        | 16.90      | 64.10      | 19.00       | 52             | 39       | 9       |
| Hotel                        | 14.90      | 9.50       | 9.10        | 19.40      | 61.60      | 19.00       | 58             | 38       | 4       |
| Parking Lot                  | 14.90      | 9.50       | 9.10        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Regional Shopping Center     | 14.90      | 9.50       | 9.10        | 16.30      | 64.70      | 19.00       | 54             | 35       | 11      |
| Research & Development       | 14.90      | 9.50       | 9.10        | 33.00      | 48.00      | 19.00       | 82             | 15       | 3       |
| Strip Mall                   | 14.90      | 9.50       | 9.10        | 16.60      | 64.40      | 19.00       | 45             | 40       | 15      |
| Unenclosed Parking Structure | 14.90      | 9.50       | 9.10        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |

## 4.4 Fleet Mix

| Land Use                     | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Apartments Mid Rise          | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Arena                        | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| City Park                    | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Enclosed Parking Structure   | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Health Club                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Hotel                        | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Parking Lot                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Regional Shopping Center     | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Research & Development       | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Strip Mall                   | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Unenclosed Parking Structure | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |

## 5.0 Energy Detail

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

Historical Energy Use: N

## 5.1 Mitigation Measures Energy

|                         | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------------------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category                | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |            |            |        |        |            |
| Electricity Mitigated   |         |        |        |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 7,897.9679 | 7,897.9679 | 0.7989 | 0.1653 | 7,967.1956 |
| Electricity Unmitigated |         |        |        |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 7,897.9679 | 7,897.9679 | 0.7989 | 0.1653 | 7,967.1956 |
| NaturalGas Mitigated    | 0.4407  | 3.8209 | 2.0061 | 0.0240 |               | 0.3045       | 0.3045     |                | 0.3045        | 0.3045      | 0.0000   | 4,361.3103 | 4,361.3103 | 0.0836 | 0.0800 | 4,387.2274 |
| NaturalGas Unmitigated  | 0.4407  | 3.8209 | 2.0061 | 0.0240 |               | 0.3045       | 0.3045     |                | 0.3045        | 0.3045      | 0.0000   | 4,361.3103 | 4,361.3103 | 0.0836 | 0.0800 | 4,387.2274 |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**5.2 Energy by Land Use - NaturalGas****Unmitigated**

|                              | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Land Use                     | kBTU/yr        | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Apartments Mid Rise          | 6.30162e+007   | 0.3398        | 2.9037        | 1.2356        | 0.0185        |               | 0.2348        | 0.2348        |                | 0.2348        | 0.2348        | 0.0000        | 3,362.7868        | 3,362.7868        | 0.0645        | 0.0617        | 3,382.7701        |
| Arena                        | 1.85625e+006   | 0.0100        | 0.0910        | 0.0764        | 5.5000e-004   |               | 6.9200e-003   | 6.9200e-003   |                | 6.9200e-003   | 6.9200e-003   | 0.0000        | 99.0566           | 99.0566           | 1.9000e-003   | 1.8200e-003   | 99.6452           |
| City Park                    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Enclosed Parking Structure   | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Health Club                  | 1.2375e+006    | 6.6700e-003   | 0.0607        | 0.0510        | 3.6000e-004   |               | 4.6100e-003   | 4.6100e-003   |                | 4.6100e-003   | 4.6100e-003   | 0.0000        | 66.0377           | 66.0377           | 1.2700e-003   | 1.2100e-003   | 66.4301           |
| Hotel                        | 5.4765e+006    | 0.0295        | 0.2685        | 0.2255        | 1.6100e-003   |               | 0.0204        | 0.0204        |                | 0.0204        | 0.0204        | 0.0000        | 292.2469          | 292.2469          | 5.6000e-003   | 5.3600e-003   | 293.9836          |
| Parking Lot                  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Regional Shopping Center     | 2.921e+006     | 0.0158        | 0.1432        | 0.1203        | 8.6000e-004   |               | 0.0109        | 0.0109        |                | 0.0109        | 0.0109        | 0.0000        | 155.8757          | 155.8757          | 2.9900e-003   | 2.8600e-003   | 156.8020          |
| Research & Development       | 6.64538e+006   | 0.0358        | 0.3258        | 0.2736        | 1.9500e-003   |               | 0.0248        | 0.0248        |                | 0.0248        | 0.0248        | 0.0000        | 354.6225          | 354.6225          | 6.8000e-003   | 6.5000e-003   | 356.7299          |
| Strip Mall                   | 575000         | 3.1000e-003   | 0.0282        | 0.0237        | 1.7000e-004   |               | 2.1400e-003   | 2.1400e-003   |                | 2.1400e-003   | 2.1400e-003   | 0.0000        | 30.6842           | 30.6842           | 5.9000e-004   | 5.6000e-004   | 30.8665           |
| Unenclosed Parking Structure | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| <b>Total</b>                 |                | <b>0.4407</b> | <b>3.8209</b> | <b>2.0061</b> | <b>0.0240</b> |               | <b>0.3045</b> | <b>0.3045</b> |                | <b>0.3045</b> | <b>0.3045</b> | <b>0.0000</b> | <b>4,361.3103</b> | <b>4,361.3103</b> | <b>0.0836</b> | <b>0.0800</b> | <b>4,387.2274</b> |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**5.2 Energy by Land Use - NaturalGas****Mitigated**

|                              | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Land Use                     | kBTU/yr        | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Apartments Mid Rise          | 6.30162e+007   | 0.3398        | 2.9037        | 1.2356        | 0.0185        |               | 0.2348        | 0.2348        |                | 0.2348        | 0.2348        | 0.0000        | 3,362.7868        | 3,362.7868        | 0.0645        | 0.0617        | 3,382.7701        |
| Arena                        | 1.85625e+006   | 0.0100        | 0.0910        | 0.0764        | 5.5000e-004   |               | 6.9200e-003   | 6.9200e-003   |                | 6.9200e-003   | 6.9200e-003   | 0.0000        | 99.0566           | 99.0566           | 1.9000e-003   | 1.8200e-003   | 99.6452           |
| City Park                    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Enclosed Parking Structure   | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Health Club                  | 1.2375e+006    | 6.6700e-003   | 0.0607        | 0.0510        | 3.6000e-004   |               | 4.6100e-003   | 4.6100e-003   |                | 4.6100e-003   | 4.6100e-003   | 0.0000        | 66.0377           | 66.0377           | 1.2700e-003   | 1.2100e-003   | 66.4301           |
| Hotel                        | 5.4765e+006    | 0.0295        | 0.2685        | 0.2255        | 1.6100e-003   |               | 0.0204        | 0.0204        |                | 0.0204        | 0.0204        | 0.0000        | 292.2469          | 292.2469          | 5.6000e-003   | 5.3600e-003   | 293.9836          |
| Parking Lot                  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Regional Shopping Center     | 2.921e+006     | 0.0158        | 0.1432        | 0.1203        | 8.6000e-004   |               | 0.0109        | 0.0109        |                | 0.0109        | 0.0109        | 0.0000        | 155.8757          | 155.8757          | 2.9900e-003   | 2.8600e-003   | 156.8020          |
| Research & Development       | 6.64538e+006   | 0.0358        | 0.3258        | 0.2736        | 1.9500e-003   |               | 0.0248        | 0.0248        |                | 0.0248        | 0.0248        | 0.0000        | 354.6225          | 354.6225          | 6.8000e-003   | 6.5000e-003   | 356.7299          |
| Strip Mall                   | 575000         | 3.1000e-003   | 0.0282        | 0.0237        | 1.7000e-004   |               | 2.1400e-003   | 2.1400e-003   |                | 2.1400e-003   | 2.1400e-003   | 0.0000        | 30.6842           | 30.6842           | 5.9000e-004   | 5.6000e-004   | 30.8665           |
| Unenclosed Parking Structure | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| <b>Total</b>                 |                | <b>0.4407</b> | <b>3.8209</b> | <b>2.0061</b> | <b>0.0240</b> |               | <b>0.3045</b> | <b>0.3045</b> |                | <b>0.3045</b> | <b>0.3045</b> | <b>0.0000</b> | <b>4,361.3103</b> | <b>4,361.3103</b> | <b>0.0836</b> | <b>0.0800</b> | <b>4,387.2274</b> |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**5.3 Energy by Land Use - Electricity****Unmitigated**

|                              | Electricity Use | Total CO2         | CH4           | N2O           | CO2e              |
|------------------------------|-----------------|-------------------|---------------|---------------|-------------------|
| Land Use                     | kWh/yr          | MT/yr             |               |               |                   |
| Apartments Mid Rise          | 3.04743e+007    | 3,963.0314        | 0.4009        | 0.0829        | 3,997.7684        |
| Arena                        | 567000          | 73.7355           | 7.4600e-003   | 1.5400e-003   | 74.3818           |
| City Park                    | 0               | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Enclosed Parking Structure   | 1.63704e+007    | 2,128.8907        | 0.2153        | 0.0446        | 2,147.5510        |
| Health Club                  | 378000          | 49.1570           | 4.9700e-003   | 1.0300e-003   | 49.5879           |
| Hotel                        | 1.2255e+006     | 159.3701          | 0.0161        | 3.3400e-003   | 160.7670          |
| Parking Lot                  | 190400          | 24.7606           | 2.5000e-003   | 5.2000e-004   | 24.9776           |
| Regional Shopping Center     | 6.6548e+006     | 865.4230          | 0.0875        | 0.0181        | 873.0087          |
| Research & Development       | 2.02986e+006    | 263.9730          | 0.0267        | 5.5200e-003   | 266.2868          |
| Strip Mall                   | 1.31e+006       | 170.3589          | 0.0172        | 3.5700e-003   | 171.8521          |
| Unenclosed Parking Structure | 1.5323e+006     | 199.2679          | 0.0202        | 4.1700e-003   | 201.0145          |
| <b>Total</b>                 |                 | <b>7,897.9679</b> | <b>0.7989</b> | <b>0.1653</b> | <b>7,967.1956</b> |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**5.3 Energy by Land Use - Electricity****Mitigated**

|                              | Electricity Use | Total CO2         | CH4           | N2O           | CO2e              |
|------------------------------|-----------------|-------------------|---------------|---------------|-------------------|
| Land Use                     | kWh/yr          | MT/yr             |               |               |                   |
| Apartments Mid Rise          | 3.04743e+007    | 3,963.0314        | 0.4009        | 0.0829        | 3,997.7684        |
| Arena                        | 567000          | 73.7355           | 7.4600e-003   | 1.5400e-003   | 74.3818           |
| City Park                    | 0               | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Enclosed Parking Structure   | 1.63704e+007    | 2,128.8907        | 0.2153        | 0.0446        | 2,147.5510        |
| Health Club                  | 378000          | 49.1570           | 4.9700e-003   | 1.0300e-003   | 49.5879           |
| Hotel                        | 1.2255e+006     | 159.3701          | 0.0161        | 3.3400e-003   | 160.7670          |
| Parking Lot                  | 190400          | 24.7606           | 2.5000e-003   | 5.2000e-004   | 24.9776           |
| Regional Shopping Center     | 6.6548e+006     | 865.4230          | 0.0875        | 0.0181        | 873.0087          |
| Research & Development       | 2.02986e+006    | 263.9730          | 0.0267        | 5.5200e-003   | 266.2868          |
| Strip Mall                   | 1.31e+006       | 170.3589          | 0.0172        | 3.5700e-003   | 171.8521          |
| Unenclosed Parking Structure | 1.5323e+006     | 199.2679          | 0.0202        | 4.1700e-003   | 201.0145          |
| <b>Total</b>                 |                 | <b>7,897.9679</b> | <b>0.7989</b> | <b>0.1653</b> | <b>7,967.1956</b> |

**6.0 Area Detail****6.1 Mitigation Measures Area**



## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

|             | ROG     | NOx    | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2      | Total CO2      | CH4    | N2O    | CO2e           |
|-------------|---------|--------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------------|----------------|--------|--------|----------------|
| Category    | tons/yr |        |         |        |               |              |            |                |               |             | MT/yr    |                |                |        |        |                |
| Mitigated   | 31.7342 | 4.6084 | 55.2632 | 0.0283 |               | 0.6203       | 0.6203     |                | 0.6203        | 0.6203      | 0.0000   | 4,709.924<br>2 | 4,709.924<br>2 | 0.1726 | 0.0847 | 4,739.490<br>7 |
| Unmitigated | 31.7342 | 4.6084 | 55.2632 | 0.0283 |               | 0.6203       | 0.6203     |                | 0.6203        | 0.6203      | 0.0000   | 4,709.924<br>2 | 4,709.924<br>2 | 0.1726 | 0.0847 | 4,739.490<br>7 |

## 6.2 Area by SubCategory

Unmitigated

|                       | ROG            | NOx           | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2              | Total CO2              | CH4           | N2O           | CO2e                   |
|-----------------------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|------------------------|------------------------|---------------|---------------|------------------------|
| SubCategory           | tons/yr        |               |                |               |               |               |               |                |               |               | MT/yr         |                        |                        |               |               |                        |
| Architectural Coating | 5.8506         |               |                |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000                 | 0.0000                 | 0.0000        | 0.0000        | 0.0000                 |
| Consumer Products     | 23.8076        |               |                |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000                 | 0.0000                 | 0.0000        | 0.0000        | 0.0000                 |
| Hearth                | 0.4671         | 3.9911        | 1.6984         | 0.0255        |               | 0.3227        | 0.3227        |                | 0.3227        | 0.3227        | 0.0000        | 4,622.159<br>6         | 4,622.159<br>6         | 0.0886        | 0.0847        | 4,649.626<br>8         |
| Landscaping           | 1.6091         | 0.6172        | 53.5649        | 2.8400e-003   |               | 0.2976        | 0.2976        |                | 0.2976        | 0.2976        | 0.0000        | 87.7646                | 87.7646                | 0.0840        | 0.0000        | 89.8639                |
| <b>Total</b>          | <b>31.7342</b> | <b>4.6084</b> | <b>55.2632</b> | <b>0.0283</b> |               | <b>0.6203</b> | <b>0.6203</b> |                | <b>0.6203</b> | <b>0.6203</b> | <b>0.0000</b> | <b>4,709.924<br/>2</b> | <b>4,709.924<br/>2</b> | <b>0.1726</b> | <b>0.0847</b> | <b>4,739.490<br/>7</b> |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**6.2 Area by SubCategory****Mitigated**

|                       | ROG            | NOx           | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|-----------------------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| SubCategory           | tons/yr        |               |                |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Architectural Coating | 5.8506         |               |                |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Consumer Products     | 23.8076        |               |                |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Hearth                | 0.4671         | 3.9911        | 1.6984         | 0.0255        |               | 0.3227        | 0.3227        |                | 0.3227        | 0.3227        | 0.0000        | 4,622.1596        | 4,622.1596        | 0.0886        | 0.0847        | 4,649.6268        |
| Landscaping           | 1.6091         | 0.6172        | 53.5649        | 2.8400e-003   |               | 0.2976        | 0.2976        |                | 0.2976        | 0.2976        | 0.0000        | 87.7646           | 87.7646           | 0.0840        | 0.0000        | 89.8639           |
| <b>Total</b>          | <b>31.7342</b> | <b>4.6084</b> | <b>55.2632</b> | <b>0.0283</b> |               | <b>0.6203</b> | <b>0.6203</b> |                | <b>0.6203</b> | <b>0.6203</b> | <b>0.0000</b> | <b>4,709.9242</b> | <b>4,709.9242</b> | <b>0.1726</b> | <b>0.0847</b> | <b>4,739.4907</b> |

**7.0 Water Detail****7.1 Mitigation Measures Water**

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

|             | Total CO2 | CH4    | N2O    | CO2e     |
|-------------|-----------|--------|--------|----------|
| Category    | MT/yr     |        |        |          |
| Mitigated   | 242.3448  | 6.1049 | 0.1475 | 438.9359 |
| Unmitigated | 242.3448  | 6.1049 | 0.1475 | 438.9359 |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**7.2 Water by Land Use****Unmitigated**

|                              | Indoor/Outdoor Use | Total CO2       | CH4           | N2O           | CO2e            |
|------------------------------|--------------------|-----------------|---------------|---------------|-----------------|
| Land Use                     | Mgal               | MT/yr           |               |               |                 |
| Apartments Mid Rise          | 125.565 / 79.1597  | 164.2226        | 4.1041        | 0.0992        | 296.3909        |
| Arena                        | 3.431 / 0.219      | 3.6025          | 0.1121        | 2.6900e-003   | 7.2062          |
| City Park                    | 0 / 19.5735        | 8.9090          | 9.0000e-004   | 1.9000e-004   | 8.9871          |
| Enclosed Parking Structure   | 0 / 0              | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Health Club                  | 2.263 / 1.387      | 2.9417          | 0.0740        | 1.7900e-003   | 5.3235          |
| Hotel                        | 16.4247 / 1.82526  | 17.5992         | 0.5365        | 0.0129        | 34.8537         |
| Parking Lot                  | 0 / 0              | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Regional Shopping Center     | 18.1041 / 11.0959  | 23.5333         | 0.5917        | 0.0143        | 42.5883         |
| Research & Development       | 13.9164 / 0        | 14.2076         | 0.4545        | 0.0109        | 28.8208         |
| Strip Mall                   | 7.08102 / 0.218977 | 7.3289          | 0.2313        | 5.5500e-003   | 14.7654         |
| Unenclosed Parking Structure | 0 / 0              | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b>                 |                    | <b>242.3448</b> | <b>6.1049</b> | <b>0.1475</b> | <b>438.9359</b> |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**7.2 Water by Land Use****Mitigated**

|                              | Indoor/Outdoor Use | Total CO2       | CH4           | N2O           | CO2e            |
|------------------------------|--------------------|-----------------|---------------|---------------|-----------------|
| Land Use                     | Mgal               | MT/yr           |               |               |                 |
| Apartments Mid Rise          | 125.565 / 79.1597  | 164.2226        | 4.1041        | 0.0992        | 296.3909        |
| Arena                        | 3.431 / 0.219      | 3.6025          | 0.1121        | 2.6900e-003   | 7.2062          |
| City Park                    | 0 / 19.5735        | 8.9090          | 9.0000e-004   | 1.9000e-004   | 8.9871          |
| Enclosed Parking Structure   | 0 / 0              | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Health Club                  | 2.263 / 1.387      | 2.9417          | 0.0740        | 1.7900e-003   | 5.3235          |
| Hotel                        | 16.4247 / 1.82526  | 17.5992         | 0.5365        | 0.0129        | 34.8537         |
| Parking Lot                  | 0 / 0              | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Regional Shopping Center     | 18.1041 / 11.0959  | 23.5333         | 0.5917        | 0.0143        | 42.5883         |
| Research & Development       | 13.9164 / 0        | 14.2076         | 0.4545        | 0.0109        | 28.8208         |
| Strip Mall                   | 7.08102 / 0.218977 | 7.3289          | 0.2313        | 5.5500e-003   | 14.7654         |
| Unenclosed Parking Structure | 0 / 0              | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| <b>Total</b>                 |                    | <b>242.3448</b> | <b>6.1049</b> | <b>0.1475</b> | <b>438.9359</b> |

**8.0 Waste Detail****8.1 Mitigation Measures Waste**

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**Category/Year**

|             | Total CO2  | CH4      | N2O    | CO2e       |
|-------------|------------|----------|--------|------------|
|             | MT/yr      |          |        |            |
| Mitigated   | 1,838.9129 | 108.6766 | 0.0000 | 4,555.8289 |
| Unmitigated | 1,838.9129 | 108.6766 | 0.0000 | 4,555.8289 |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**8.2 Waste by Land Use****Unmitigated**

|                              | Waste Disposed | Total CO2         | CH4             | N2O           | CO2e              |
|------------------------------|----------------|-------------------|-----------------|---------------|-------------------|
| Land Use                     | tons           | MT/yr             |                 |               |                   |
| Apartments Mid Rise          | 7062.81        | 1,433.6866        | 84.7285         | 0.0000        | 3,551.8979        |
| Arena                        | 645            | 130.9292          | 7.7377          | 0.0000        | 324.3715          |
| City Park                    | 10.12          | 2.0543            | 0.1214          | 0.0000        | 5.0894            |
| Enclosed Parking Structure   | 0              | 0.0000            | 0.0000          | 0.0000        | 0.0000            |
| Health Club                  | 46.75          | 9.4898            | 0.5608          | 0.0000        | 23.5107           |
| Hotel                        | 202.4          | 41.0854           | 2.4281          | 0.0000        | 101.7873          |
| Parking Lot                  | 0              | 0.0000            | 0.0000          | 0.0000        | 0.0000            |
| Regional Shopping Center     | 666.75         | 135.3442          | 7.9986          | 0.0000        | 335.3096          |
| Research & Development       | 294.007        | 59.6809           | 3.5270          | 0.0000        | 147.8568          |
| Strip Mall                   | 131.25         | 26.6426           | 1.5745          | 0.0000        | 66.0058           |
| Unenclosed Parking Structure | 0              | 0.0000            | 0.0000          | 0.0000        | 0.0000            |
| <b>Total</b>                 |                | <b>1,838.9129</b> | <b>108.6766</b> | <b>0.0000</b> | <b>4,555.8289</b> |

## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**8.2 Waste by Land Use****Mitigated**

|                              | Waste Disposed | Total CO2         | CH4             | N2O           | CO2e              |
|------------------------------|----------------|-------------------|-----------------|---------------|-------------------|
| Land Use                     | tons           | MT/yr             |                 |               |                   |
| Apartments Mid Rise          | 7062.81        | 1,433.6866        | 84.7285         | 0.0000        | 3,551.8979        |
| Arena                        | 645            | 130.9292          | 7.7377          | 0.0000        | 324.3715          |
| City Park                    | 10.12          | 2.0543            | 0.1214          | 0.0000        | 5.0894            |
| Enclosed Parking Structure   | 0              | 0.0000            | 0.0000          | 0.0000        | 0.0000            |
| Health Club                  | 46.75          | 9.4898            | 0.5608          | 0.0000        | 23.5107           |
| Hotel                        | 202.4          | 41.0854           | 2.4281          | 0.0000        | 101.7873          |
| Parking Lot                  | 0              | 0.0000            | 0.0000          | 0.0000        | 0.0000            |
| Regional Shopping Center     | 666.75         | 135.3442          | 7.9986          | 0.0000        | 335.3096          |
| Research & Development       | 294.007        | 59.6809           | 3.5270          | 0.0000        | 147.8568          |
| Strip Mall                   | 131.25         | 26.6426           | 1.5745          | 0.0000        | 66.0058           |
| Unenclosed Parking Structure | 0              | 0.0000            | 0.0000          | 0.0000        | 0.0000            |
| <b>Total</b>                 |                | <b>1,838.9129</b> | <b>108.6766</b> | <b>0.0000</b> | <b>4,555.8289</b> |

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|



## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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## Candlestick Point - Operational - GHG Analysis - San Francisco County, Annual

|             | Total CO2      | CH4    | N2O    | CO2e           |
|-------------|----------------|--------|--------|----------------|
| Category    | MT             |        |        |                |
| Unmitigated | 3,670.000<br>0 | 0.0000 | 0.0000 | 3,670.000<br>0 |

## 11.2 Net New Trees

Species Class

|                | Number of<br>Trees | Total CO2              | CH4           | N2O           | CO2e                   |
|----------------|--------------------|------------------------|---------------|---------------|------------------------|
|                |                    | MT                     |               |               |                        |
| Mixed Hardwood | 5000               | 3,670.000<br>0         | 0.0000        | 0.0000        | 3,670.000<br>0         |
| <b>Total</b>   |                    | <b>3,670.000<br/>0</b> | <b>0.0000</b> | <b>0.0000</b> | <b>3,670.000<br/>0</b> |

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

## Hunters Point Shipyard Phase II - Operational - CAP Analysis

### San Francisco County, Summer

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses                    | Size     | Metric        | Lot Acreage | Floor Surface Area | Population |
|------------------------------|----------|---------------|-------------|--------------------|------------|
| General Office Building      | 255.00   | 1000sqft      | 3.10        | 255,000.00         | 0          |
| Research & Development       | 4,146.50 | 1000sqft      | 51.10       | 4,146,500.00       | 0          |
| High School                  | 300.00   | Student       | 0.50        | 27,857.00          | 0          |
| Junior College (2Yr)         | 400.00   | Student       | 0.20        | 37,142.00          | 0          |
| Junior High School           | 1,012.00 | Student       | 1.50        | 345,000.00         | 0          |
| Enclosed Parking Structure   | 3,454.00 | Space         | 16.70       | 1,381,600.00       | 0          |
| Parking Lot                  | 1,487.00 | Space         | 7.20        | 594,800.00         | 0          |
| Unenclosed Parking Structure | 7,119.00 | Space         | 34.40       | 2,847,600.00       | 0          |
| City Park                    | 249.00   | Acre          | 249.00      | 10,846,440.00      | 0          |
| Health Club                  | 50.00    | 1000sqft      | 0.60        | 50,000.00          | 0          |
| Hotel                        | 175.00   | Room          | 3.10        | 120,000.00         | 0          |
| Apartments Mid Rise          | 3,454.00 | Dwelling Unit | 48.70       | 3,454,000.00       | 9878       |
| Regional Shopping Center     | 100.00   | 1000sqft      | 1.20        | 100,000.00         | 0          |
| Strip Mall                   | 301.00   | 1000sqft      | 3.70        | 301,000.00         | 0          |

### 1.2 Other Project Characteristics

|                 |                                |                  |     |                           |    |
|-----------------|--------------------------------|------------------|-----|---------------------------|----|
| Urbanization    | Urban                          | Wind Speed (m/s) | 4.6 | Precipitation Freq (Days) | 64 |
| Climate Zone    | 5                              | Operational Year |     | 2032                      |    |
| Utility Company | Pacific Gas & Electric Company |                  |     |                           |    |

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

|                                     |       |                                     |       |                                     |       |
|-------------------------------------|-------|-------------------------------------|-------|-------------------------------------|-------|
| <b>CO2 Intensity<br/>(lb/MWahr)</b> | 286.7 | <b>CH4 Intensity<br/>(lb/MWahr)</b> | 0.029 | <b>N2O Intensity<br/>(lb/MWahr)</b> | 0.006 |
|-------------------------------------|-------|-------------------------------------|-------|-------------------------------------|-------|

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Based on construction schedule, assumed start date is 01/01/2018.

CO2 emissions intensity for 2032 based on a 50% RPS for 2030, calculated by averaging CO2 intensity for 2013,2014 and 2015 as the baseline. CH4 and N2O intensity is similar to PG&E.

Land Use - Land uses based on information provided by Client. Total acreage in EIR is 421. Lot acreages have been scaled down accordingly. Acreage for city park remains the same. Assumed zero building area in city parks.

Construction Phase - Zero'ed out construction since this was calculated separately.

Off-road Equipment -

Trips and VMT - Not modifying anything here since construction is modeled separately.

On-road Fugitive Dust - Not modifying anything here since construction is modeled separately.

Demolition -

Grading - Not modifying anything here since construction is modeled separately.

Architectural Coating - Not modifying anything here since construction is modeled separately.

Vehicle Trips - Trip rates calculated based on traffic data from F&P on 3/28/2018. Adjusted total trips are calculated based on CalEEMod default trip generation rates. Trip lengths are from EIR AQ section for Hunters point.

Woodstoves - No wood-stoves in project location. Assuming there are 3454 natural gas fireplaces, that operate for 4 hours a day for 50 days (200 hours/year).

Consumer Products - Consumer product emissions factor for San Francisco.

Energy Use -

Water And Wastewater - Water usage for Hunters Point is based on EIR water usage.

Solid Waste - Solid water disposal rate for Hunter's point is based on EIR disposal rates.

| Table Name           | Column Name | Default Value | New Value |
|----------------------|-------------|---------------|-----------|
| tblConstructionPhase | NumDays     | 550.00        | 0.00      |
| tblConstructionPhase | NumDays     | 7,750.00      | 0.00      |
| tblConstructionPhase | NumDays     | 500.00        | 0.00      |
| tblConstructionPhase | NumDays     | 775.00        | 0.00      |

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

|                      |                   |            |            |
|----------------------|-------------------|------------|------------|
| tblConstructionPhase | NumDays           | 550.00     | 0.00       |
| tblConstructionPhase | NumDays           | 300.00     | 0.00       |
| tblConsumerProducts  | ROG_EF            | 2.14E-05   | 1.51E-05   |
| tblFireplaces        | FireplaceDayYear  | 11.14      | 50.00      |
| tblFireplaces        | FireplaceHourDay  | 3.50       | 4.00       |
| tblFireplaces        | FireplaceWoodMass | 228.80     | 0.00       |
| tblFireplaces        | NumberGas         | 518.10     | 3,454.00   |
| tblFireplaces        | NumberNoFireplace | 138.16     | 0.00       |
| tblFireplaces        | NumberWood        | 587.18     | 0.00       |
| tblGrading           | AcresOfGrading    | 0.00       | 1,937.50   |
| tblLandUse           | LandUseSquareFeet | 39,798.29  | 27,857.00  |
| tblLandUse           | LandUseSquareFeet | 17,460.89  | 37,142.00  |
| tblLandUse           | LandUseSquareFeet | 118,972.42 | 345,000.00 |
| tblLandUse           | LandUseSquareFeet | 254,100.00 | 120,000.00 |
| tblLandUse           | LotAcreage        | 5.85       | 3.10       |
| tblLandUse           | LotAcreage        | 95.19      | 51.10      |
| tblLandUse           | LotAcreage        | 0.91       | 0.50       |
| tblLandUse           | LotAcreage        | 0.40       | 0.20       |
| tblLandUse           | LotAcreage        | 2.73       | 1.50       |
| tblLandUse           | LotAcreage        | 31.09      | 16.70      |
| tblLandUse           | LotAcreage        | 13.38      | 7.20       |
| tblLandUse           | LotAcreage        | 64.07      | 34.40      |
| tblLandUse           | LotAcreage        | 1.15       | 0.60       |
| tblLandUse           | LotAcreage        | 5.83       | 3.10       |
| tblLandUse           | LotAcreage        | 90.89      | 48.70      |
| tblLandUse           | LotAcreage        | 2.30       | 1.20       |
| tblLandUse           | LotAcreage        | 6.91       | 3.70       |

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

[illegible]

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

|                 |        |       |       |
|-----------------|--------|-------|-------|
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | HO_TL  | 5.70  | 7.50  |
| tblVehicleTrips | HS_TL  | 4.80  | 7.30  |
| tblVehicleTrips | ST_TR  | 6.39  | 2.60  |
| tblVehicleTrips | ST_TR  | 22.75 | 9.27  |
| tblVehicleTrips | ST_TR  | 2.46  | 1.00  |
| tblVehicleTrips | ST_TR  | 20.87 | 8.51  |
| tblVehicleTrips | ST_TR  | 0.61  | 0.25  |
| tblVehicleTrips | ST_TR  | 8.19  | 3.34  |
| tblVehicleTrips | ST_TR  | 0.42  | 0.17  |
| tblVehicleTrips | ST_TR  | 49.97 | 20.37 |
| tblVehicleTrips | ST_TR  | 1.90  | 0.77  |
| tblVehicleTrips | ST_TR  | 42.04 | 17.13 |
| tblVehicleTrips | SU_TR  | 5.86  | 2.39  |
| tblVehicleTrips | SU_TR  | 16.74 | 6.82  |

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

|                 |                    |                |               |
|-----------------|--------------------|----------------|---------------|
| tblVehicleTrips | SU_TR              | 1.05           | 0.43          |
| tblVehicleTrips | SU_TR              | 26.73          | 10.89         |
| tblVehicleTrips | SU_TR              | 0.25           | 0.10          |
| tblVehicleTrips | SU_TR              | 5.95           | 2.43          |
| tblVehicleTrips | SU_TR              | 0.04           | 0.00          |
| tblVehicleTrips | SU_TR              | 25.24          | 10.29         |
| tblVehicleTrips | SU_TR              | 1.11           | 0.45          |
| tblVehicleTrips | SU_TR              | 20.43          | 8.33          |
| tblVehicleTrips | WD_TR              | 6.65           | 2.71          |
| tblVehicleTrips | WD_TR              | 1.89           | 0.77          |
| tblVehicleTrips | WD_TR              | 11.03          | 4.50          |
| tblVehicleTrips | WD_TR              | 32.93          | 13.42         |
| tblVehicleTrips | WD_TR              | 1.71           | 0.70          |
| tblVehicleTrips | WD_TR              | 8.17           | 3.33          |
| tblVehicleTrips | WD_TR              | 1.23           | 0.50          |
| tblVehicleTrips | WD_TR              | 1.62           | 0.66          |
| tblVehicleTrips | WD_TR              | 42.70          | 17.40         |
| tblVehicleTrips | WD_TR              | 8.11           | 3.31          |
| tblVehicleTrips | WD_TR              | 44.32          | 18.06         |
| tblWater        | IndoorWaterUseRate | 225,042,004.50 | 64,193,343.00 |
| tblWater        | IndoorWaterUseRate | 45,322,105.74  | 4,525,996.00  |
| tblWater        | IndoorWaterUseRate | 2,957,157.20   | 2,262,998.00  |
| tblWater        | IndoorWaterUseRate | 1,321,488.00   | 1,321,500.00  |
| tblWater        | IndoorWaterUseRate | 4,439,184.75   | 4,439,225.00  |
| tblWater        | IndoorWaterUseRate | 856,440.00     | 856,400.00    |
| tblWater        | IndoorWaterUseRate | 2,453,330.88   | 2,453,088.00  |
| tblWater        | IndoorWaterUseRate | 7,407,252.15   | 7,407,300.00  |



## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

|               |                     |                  |                |
|---------------|---------------------|------------------|----------------|
| tblWater      | IndoorWaterUseRate  | 2,038,808,952.08 | 214,913,095.00 |
| tblWater      | IndoorWaterUseRate  | 22,295,828.97    | 10,898,661.00  |
| tblWater      | OutdoorWaterUseRate | 141,874,307.18   | 40,469,374.00  |
| tblWater      | OutdoorWaterUseRate | 296,678,856.07   | 57,332,268.00  |
| tblWater      | OutdoorWaterUseRate | 27,778,064.81    | 2,774,004.00   |
| tblWater      | OutdoorWaterUseRate | 1,812,451.19     | 1,387,002.00   |
| tblWater      | OutdoorWaterUseRate | 3,398,112.00     | 3,398,100.00   |
| tblWater      | OutdoorWaterUseRate | 493,242.75       | 493,325.00     |
| tblWater      | OutdoorWaterUseRate | 1,339,560.00     | 1,339,600.00   |
| tblWater      | OutdoorWaterUseRate | 6,308,565.12     | 6,308,808.00   |
| tblWater      | OutdoorWaterUseRate | 4,539,928.74     | 4,539,900.00   |
| tblWater      | OutdoorWaterUseRate | 13,665,185.50    | 6,679,739.00   |
| tblWoodstoves | NumberCatalytic     | 69.08            | 0.00           |
| tblWoodstoves | NumberNoncatalytic  | 69.08            | 0.00           |
| tblWoodstoves | WoodstoveDayYear    | 14.12            | 0.00           |
| tblWoodstoves | WoodstoveWoodMass   | 582.40           | 0.00           |

## 2.0 Emissions Summary

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Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

## 2.1 Overall Construction (Maximum Daily Emission)

### Mitigated Construction

[illegible][illegible]

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

**2.2 Overall Operational****Unmitigated Operational**

|              | ROG             | NOx             | CO              | SO2           | Fugitive PM10   | Exhaust PM10   | PM10 Total      | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2      | NBio- CO2                | Total CO2                | CH4           | N2O           | CO2e                     |
|--------------|-----------------|-----------------|-----------------|---------------|-----------------|----------------|-----------------|----------------|----------------|----------------|---------------|--------------------------|--------------------------|---------------|---------------|--------------------------|
| Category     | lb/day          |                 |                 |               |                 |                |                 |                |                |                | lb/day        |                          |                          |               |               |                          |
| Area         | 182.5692        | 79.6881         | 318.6497        | 0.5028        |                 | 7.7637         | 7.7637          |                | 7.7637         | 7.7637         | 0.0000        | 98,041.97<br>43          | 98,041.97<br>43          | 2.3688        | 1.7880        | 98,634.00<br>50          |
| Energy       | 4.5083          | 40.4983         | 30.8630         | 0.2459        |                 | 3.1148         | 3.1148          |                | 3.1148         | 3.1148         |               | 49,181.12<br>54          | 49,181.12<br>54          | 0.9426        | 0.9017        | 49,473.38<br>42          |
| Mobile       | 32.5878         | 130.0433        | 347.9868        | 1.6288        | 181.0342        | 1.1410         | 182.1752        | 48.5406        | 1.0631         | 49.6038        |               | 166,411.65<br>72         | 166,411.65<br>72         | 6.1291        |               | 166,564.8<br>838         |
| <b>Total</b> | <b>219.6653</b> | <b>250.2297</b> | <b>697.4994</b> | <b>2.3776</b> | <b>181.0342</b> | <b>12.0195</b> | <b>193.0537</b> | <b>48.5406</b> | <b>11.9416</b> | <b>60.4823</b> | <b>0.0000</b> | <b>313,634.7<br/>569</b> | <b>313,634.7<br/>569</b> | <b>9.4405</b> | <b>2.6896</b> | <b>314,672.2<br/>730</b> |

**Mitigated Operational**

|              | ROG             | NOx             | CO              | SO2           | Fugitive PM10   | Exhaust PM10   | PM10 Total      | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2      | NBio- CO2                | Total CO2                | CH4           | N2O           | CO2e                     |
|--------------|-----------------|-----------------|-----------------|---------------|-----------------|----------------|-----------------|----------------|----------------|----------------|---------------|--------------------------|--------------------------|---------------|---------------|--------------------------|
| Category     | lb/day          |                 |                 |               |                 |                |                 |                |                |                | lb/day        |                          |                          |               |               |                          |
| Area         | 182.5692        | 79.6881         | 318.6497        | 0.5028        |                 | 7.7637         | 7.7637          |                | 7.7637         | 7.7637         | 0.0000        | 98,041.97<br>43          | 98,041.97<br>43          | 2.3688        | 1.7880        | 98,634.00<br>50          |
| Energy       | 4.5083          | 40.4983         | 30.8630         | 0.2459        |                 | 3.1148         | 3.1148          |                | 3.1148         | 3.1148         |               | 49,181.12<br>54          | 49,181.12<br>54          | 0.9426        | 0.9017        | 49,473.38<br>42          |
| Mobile       | 32.5878         | 130.0433        | 347.9868        | 1.6288        | 181.0342        | 1.1410         | 182.1752        | 48.5406        | 1.0631         | 49.6038        |               | 166,411.65<br>72         | 166,411.65<br>72         | 6.1291        |               | 166,564.8<br>838         |
| <b>Total</b> | <b>219.6653</b> | <b>250.2297</b> | <b>697.4994</b> | <b>2.3776</b> | <b>181.0342</b> | <b>12.0195</b> | <b>193.0537</b> | <b>48.5406</b> | <b>11.9416</b> | <b>60.4823</b> | <b>0.0000</b> | <b>313,634.7<br/>569</b> | <b>313,634.7<br/>569</b> | <b>9.4405</b> | <b>2.6896</b> | <b>314,672.2<br/>730</b> |

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

### 3.0 Construction Detail

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#### Construction Phase

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date   | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1            | Demolition            | Demolition            | 1/1/2018   | 12/31/2017 | 5             | 0        |                   |
| 2            | Site Preparation      | Site Preparation      | 2/23/2019  | 2/22/2019  | 5             | 0        |                   |
| 3            | Grading               | Grading               | 11/2/2019  | 11/1/2019  | 5             | 0        |                   |
| 4            | Building Construction | Building Construction | 8/14/2021  | 8/13/2021  | 5             | 0        |                   |
| 5            | Paving                | Paving                | 6/11/2039  | 6/10/2039  | 5             | 0        |                   |
| 6            | Architectural Coating | Architectural Coating | 9/15/2040  | 9/14/2040  | 5             | 0        |                   |

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1937.5

Acres of Paving: 58.3

Residential Indoor: 6,994,350; Residential Outdoor: 2,331,450; Non-Residential Indoor: 8,073,749; Non-Residential Outdoor: 2,691,250; Striped Parking Area: 289,440 (Architectural Coating – sqft)

#### OffRoad Equipment

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

| Phase Name            | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Demolition            | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |
| Demolition            | Excavators                | 3      | 8.00        | 158         | 0.38        |
| Demolition            | Rubber Tired Dozers       | 2      | 8.00        | 247         | 0.40        |
| Site Preparation      | Rubber Tired Dozers       | 3      | 8.00        | 247         | 0.40        |
| Site Preparation      | Tractors/Loaders/Backhoes | 4      | 8.00        | 97          | 0.37        |
| Grading               | Excavators                | 2      | 8.00        | 158         | 0.38        |
| Grading               | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Grading               | Rubber Tired Dozers       | 1      | 8.00        | 247         | 0.40        |
| Grading               | Scrapers                  | 2      | 8.00        | 367         | 0.48        |
| Grading               | Tractors/Loaders/Backhoes | 2      | 8.00        | 97          | 0.37        |
| Building Construction | Cranes                    | 1      | 7.00        | 231         | 0.29        |
| Building Construction | Forklifts                 | 3      | 8.00        | 89          | 0.20        |
| Building Construction | Generator Sets            | 1      | 8.00        | 84          | 0.74        |
| Building Construction | Tractors/Loaders/Backhoes | 3      | 7.00        | 97          | 0.37        |
| Building Construction | Welders                   | 1      | 8.00        | 46          | 0.45        |
| Paving                | Pavers                    | 2      | 8.00        | 130         | 0.42        |
| Paving                | Paving Equipment          | 2      | 8.00        | 132         | 0.36        |
| Paving                | Rollers                   | 2      | 8.00        | 80          | 0.38        |
| Architectural Coating | Air Compressors           | 1      | 6.00        | 78          | 0.48        |

Trips and VMT

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition            | 6                       | 15.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 7                       | 18.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Grading               | 8                       | 20.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 9                       | 10,887.00          | 3,839.00           | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Paving                | 6                       | 15.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 1                       | 2,177.00           | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

### 3.1 Mitigation Measures Construction

### 3.3 Site Preparation - 2019

### Unmitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

### 3.3 Site Preparation - 2019

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]



Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

### 3.3 Site Preparation - 2019

### Mitigated Construction Off-Site

[illegible]

### 3.4 Grading - 2019

### Unmitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

### 3.4 Grading - 2019

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

### 3.4 Grading - 2019

### Mitigated Construction Off-Site

[illegible]

### 3.5 Building Construction - 2021

### Unmitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

### 3.5 Building Construction - 2021

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

### 3.5 Building Construction - 2021

### Mitigated Construction Off-Site

[illegible]

### 3.6 Paving - 2039

### Unmitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

### 3.6 Paving - 2039

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

### 3.6 Paving - 2039

### Mitigated Construction Off-Site

[illegible]

### 3.7 Architectural Coating - 2040

### Unmitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

### 3.7 Architectural Coating - 2040

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]



## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

**3.7 Architectural Coating - 2040****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

|             | ROG     | NOx      | CO       | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2    | Total CO2    | CH4    | N2O | CO2e         |
|-------------|---------|----------|----------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|--------------|--------------|--------|-----|--------------|
| Category    | lb/day  |          |          |        |               |              |            |                |               |             | lb/day   |              |              |        |     |              |
| Mitigated   | 32.5878 | 130.0433 | 347.9868 | 1.6288 | 181.0342      | 1.1410       | 182.1752   | 48.5406        | 1.0631        | 49.6038     |          | 166,411.6572 | 166,411.6572 | 6.1291 |     | 166,564.8838 |
| Unmitigated | 32.5878 | 130.0433 | 347.9868 | 1.6288 | 181.0342      | 1.1410       | 182.1752   | 48.5406        | 1.0631        | 49.6038     |          | 166,411.6572 | 166,411.6572 | 6.1291 |     | 166,564.8838 |

## 4.2 Trip Summary Information

| Land Use                     | Average Daily Trip Rate |           |           | Unmitigated | Mitigated  |
|------------------------------|-------------------------|-----------|-----------|-------------|------------|
|                              | Weekday                 | Saturday  | Sunday    | Annual VMT  | Annual VMT |
| Apartments Mid Rise          | 9,361.59                | 8,995.57  | 8249.46   | 25,115,682  | 25,115,682 |
| City Park                    | 191.81                  | 2,308.80  | 1698.87   | 1,527,374   | 1,527,374  |
| Enclosed Parking Structure   | 0.00                    | 0.00      | 0.00      |             |            |
| General Office Building      | 1,146.36                | 255.67    | 109.13    | 2,098,703   | 2,098,703  |
| Health Club                  | 671.07                  | 425.30    | 544.72    | 1,079,084   | 1,079,084  |
| High School                  | 209.09                  | 74.59     | 30.57     | 431,402     | 431,402    |
| Hotel                        | 582.73                  | 584.15    | 424.39    | 1,075,649   | 1,075,649  |
| Junior College (2Yr)         | 200.53                  | 68.47     | 0.00      | 393,474     | 393,474    |
| Junior High School           | 668.19                  | 0.00      | 0.00      | 1,076,290   | 1,076,290  |
| Parking Lot                  | 0.00                    | 0.00      | 0.00      |             |            |
| Regional Shopping Center     | 1,740.34                | 2,036.64  | 1028.71   | 2,979,454   | 2,979,454  |
| Research & Development       | 13,705.92               | 3,211.00  | 1875.90   | 26,577,238  | 26,577,238 |
| Strip Mall                   | 5,437.16                | 5,157.45  | 2506.34   | 7,750,195   | 7,750,195  |
| Unenclosed Parking Structure | 0.00                    | 0.00      | 0.00      |             |            |
| Total                        | 33,914.77               | 23,117.65 | 16,468.09 | 70,104,545  | 70,104,545 |

## 4.3 Trip Type Information

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

| Land Use                     | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                              | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Apartments Mid Rise          | 10.80      | 7.30       | 7.50        | 31.00      | 15.00      | 54.00       | 86             | 11       | 3       |
| City Park                    | 9.50       | 7.40       | 7.40        | 33.00      | 48.00      | 19.00       | 66             | 28       | 6       |
| Enclosed Parking Structure   | 9.50       | 7.40       | 7.40        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| General Office Building      | 9.50       | 7.40       | 7.40        | 33.00      | 48.00      | 19.00       | 77             | 19       | 4       |
| Health Club                  | 9.50       | 7.40       | 7.40        | 16.90      | 64.10      | 19.00       | 52             | 39       | 9       |
| High School                  | 9.50       | 7.40       | 7.40        | 77.80      | 17.20      | 5.00        | 75             | 19       | 6       |
| Hotel                        | 9.50       | 7.40       | 7.40        | 19.40      | 61.60      | 19.00       | 58             | 38       | 4       |
| Junior College (2Yr)         | 9.50       | 7.40       | 7.40        | 6.40       | 88.60      | 5.00        | 92             | 7        | 1       |
| Junior High School           | 9.50       | 7.40       | 7.40        | 72.80      | 22.20      | 5.00        | 63             | 25       | 12      |
| Parking Lot                  | 9.50       | 7.40       | 7.40        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Regional Shopping Center     | 9.50       | 7.40       | 7.40        | 16.30      | 64.70      | 19.00       | 54             | 35       | 11      |
| Research & Development       | 9.50       | 7.40       | 7.40        | 33.00      | 48.00      | 19.00       | 82             | 15       | 3       |
| Strip Mall                   | 9.50       | 7.40       | 7.40        | 16.60      | 64.40      | 19.00       | 45             | 40       | 15      |
| Unenclosed Parking Structure | 9.50       | 7.40       | 7.40        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |

## 4.4 Fleet Mix

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

| Land Use                     | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Apartments Mid Rise          | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| City Park                    | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Enclosed Parking Structure   | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| General Office Building      | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Health Club                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| High School                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Hotel                        | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Junior College (2Yr)         | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Junior High School           | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Parking Lot                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Regional Shopping Center     | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Research & Development       | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Strip Mall                   | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Unenclosed Parking Structure | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |

## 5.0 Energy Detail

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Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

|                        | ROG    | NOx     | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4    | N2O    | CO2e        |
|------------------------|--------|---------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|--------|-------------|
| Category               | lb/day |         |         |        |               |              |            |                |               |             | lb/day   |             |             |        |        |             |
| NaturalGas Mitigated   | 4.5083 | 40.4983 | 30.8630 | 0.2459 |               | 3.1148       | 3.1148     |                | 3.1148        | 3.1148      |          | 49,181.1254 | 49,181.1254 | 0.9426 | 0.9017 | 49,473.3842 |
| NaturalGas Unmitigated | 4.5083 | 40.4983 | 30.8630 | 0.2459 |               | 3.1148       | 3.1148     |                | 3.1148        | 3.1148      |          | 49,181.1254 | 49,181.1254 | 0.9426 | 0.9017 | 49,473.3842 |

**5.2 Energy by Land Use - NaturalGas****Unmitigated**

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

|                              | NaturalGas Use | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|------------------------------|----------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|---------------|--------------------|
| Land Use                     | kBTU/yr        | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                    |                    |               |               |                    |
| Apartments Mid Rise          | 82616.2        | 0.8910        | 7.6137         | 3.2399         | 0.0486        |               | 0.6156        | 0.6156        |                | 0.6156        | 0.6156        |          | 9,719.5504         | 9,719.5504         | 0.1863        | 0.1782        | 9,777.3089         |
| City Park                    | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Enclosed Parking Structure   | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| General Office Building      | 13504.5        | 0.1456        | 1.3240         | 1.1121         | 7.9400e-003   |               | 0.1006        | 0.1006        |                | 0.1006        | 0.1006        |          | 1,588.7671         | 1,588.7671         | 0.0305        | 0.0291        | 1,598.2084         |
| Health Club                  | 3390.41        | 0.0366        | 0.3324         | 0.2792         | 1.9900e-003   |               | 0.0253        | 0.0253        |                | 0.0253        | 0.0253        |          | 398.8719           | 398.8719           | 7.6500e-003   | 7.3100e-003   | 401.2422           |
| High School                  | 1257           | 0.0136        | 0.1232         | 0.1035         | 7.4000e-004   |               | 9.3700e-003   | 9.3700e-003   |                | 9.3700e-003   | 9.3700e-003   |          | 147.8823           | 147.8823           | 2.8300e-003   | 2.7100e-003   | 148.7611           |
| Hotel                        | 12003.3        | 0.1295        | 1.1768         | 0.9885         | 7.0600e-003   |               | 0.0894        | 0.0894        |                | 0.0894        | 0.0894        |          | 1,412.1515         | 1,412.1515         | 0.0271        | 0.0259        | 1,420.5432         |
| Junior College (2Yr)         | 3480.15        | 0.0375        | 0.3412         | 0.2866         | 2.0500e-003   |               | 0.0259        | 0.0259        |                | 0.0259        | 0.0259        |          | 409.4299           | 409.4299           | 7.8500e-003   | 7.5100e-003   | 411.8630           |
| Junior High School           | 15567.5        | 0.1679        | 1.5262         | 1.2820         | 9.1600e-003   |               | 0.1160        | 0.1160        |                | 0.1160        | 0.1160        |          | 1,831.4746         | 1,831.4746         | 0.0351        | 0.0336        | 1,842.3582         |
| Parking Lot                  | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Regional Shopping Center     | 1260.27        | 0.0136        | 0.1236         | 0.1038         | 7.4000e-004   |               | 9.3900e-003   | 9.3900e-003   |                | 9.3900e-003   | 9.3900e-003   |          | 148.2675           | 148.2675           | 2.8400e-003   | 2.7200e-003   | 149.1486           |
| Research & Development       | 281167         | 3.0322        | 27.5654        | 23.1549        | 0.1654        |               | 2.0950        | 2.0950        |                | 2.0950        | 2.0950        |          | 33,078.4448        | 33,078.4448        | 0.6340        | 0.6064        | 33,275.0135        |
| Strip Mall                   | 3793.42        | 0.0409        | 0.3719         | 0.3124         | 2.2300e-003   |               | 0.0283        | 0.0283        |                | 0.0283        | 0.0283        |          | 446.2853           | 446.2853           | 8.5500e-003   | 8.1800e-003   | 448.9373           |
| Unenclosed Parking Structure | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| <b>Total</b>                 |                | <b>4.5083</b> | <b>40.4983</b> | <b>30.8630</b> | <b>0.2459</b> |               | <b>3.1148</b> | <b>3.1148</b> |                | <b>3.1148</b> | <b>3.1148</b> |          | <b>49,181.1254</b> | <b>49,181.1254</b> | <b>0.9426</b> | <b>0.9017</b> | <b>49,473.3842</b> |

## 5.2 Energy by Land Use - NaturalGas

Mitigated

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

|                              | Natural Gas Use | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|------------------------------|-----------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|---------------|--------------------|
| Land Use                     | kBTU/yr         | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                    |                    |               |               |                    |
| Apartments Mid Rise          | 82.6162         | 0.8910        | 7.6137         | 3.2399         | 0.0486        |               | 0.6156        | 0.6156        |                | 0.6156        | 0.6156        |          | 9,719.5504         | 9,719.5504         | 0.1863        | 0.1782        | 9,777.3089         |
| City Park                    | 0               | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Enclosed Parking Structure   | 0               | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| General Office Building      | 13.5045         | 0.1456        | 1.3240         | 1.1121         | 7.9400e-003   |               | 0.1006        | 0.1006        |                | 0.1006        | 0.1006        |          | 1,588.7671         | 1,588.7671         | 0.0305        | 0.0291        | 1,598.2084         |
| Health Club                  | 3.39041         | 0.0366        | 0.3324         | 0.2792         | 1.9900e-003   |               | 0.0253        | 0.0253        |                | 0.0253        | 0.0253        |          | 398.8719           | 398.8719           | 7.6500e-003   | 7.3100e-003   | 401.2422           |
| High School                  | 1.257           | 0.0136        | 0.1232         | 0.1035         | 7.4000e-004   |               | 9.3700e-003   | 9.3700e-003   |                | 9.3700e-003   | 9.3700e-003   |          | 147.8823           | 147.8823           | 2.8300e-003   | 2.7100e-003   | 148.7611           |
| Hotel                        | 12.0033         | 0.1295        | 1.1768         | 0.9885         | 7.0600e-003   |               | 0.0894        | 0.0894        |                | 0.0894        | 0.0894        |          | 1,412.1515         | 1,412.1515         | 0.0271        | 0.0259        | 1,420.5432         |
| Junior College (2Yr)         | 3.48015         | 0.0375        | 0.3412         | 0.2866         | 2.0500e-003   |               | 0.0259        | 0.0259        |                | 0.0259        | 0.0259        |          | 409.4299           | 409.4299           | 7.8500e-003   | 7.5100e-003   | 411.8630           |
| Junior High School           | 15.5675         | 0.1679        | 1.5262         | 1.2820         | 9.1600e-003   |               | 0.1160        | 0.1160        |                | 0.1160        | 0.1160        |          | 1,831.4746         | 1,831.4746         | 0.0351        | 0.0336        | 1,842.3582         |
| Parking Lot                  | 0               | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Regional Shopping Center     | 1.26027         | 0.0136        | 0.1236         | 0.1038         | 7.4000e-004   |               | 9.3900e-003   | 9.3900e-003   |                | 9.3900e-003   | 9.3900e-003   |          | 148.2675           | 148.2675           | 2.8400e-003   | 2.7200e-003   | 149.1486           |
| Research & Development       | 281.167         | 3.0322        | 27.5654        | 23.1549        | 0.1654        |               | 2.0950        | 2.0950        |                | 2.0950        | 2.0950        |          | 33,078.4448        | 33,078.4448        | 0.6340        | 0.6064        | 33,275.0135        |
| Strip Mall                   | 3.79342         | 0.0409        | 0.3719         | 0.3124         | 2.2300e-003   |               | 0.0283        | 0.0283        |                | 0.0283        | 0.0283        |          | 446.2853           | 446.2853           | 8.5500e-003   | 8.1800e-003   | 448.9373           |
| Unenclosed Parking Structure | 0               | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| <b>Total</b>                 |                 | <b>4.5083</b> | <b>40.4983</b> | <b>30.8630</b> | <b>0.2459</b> |               | <b>3.1148</b> | <b>3.1148</b> |                | <b>3.1148</b> | <b>3.1148</b> |          | <b>49,181.1254</b> | <b>49,181.1254</b> | <b>0.9426</b> | <b>0.9017</b> | <b>49,473.3842</b> |

## 6.0 Area Detail

## 6.1 Mitigation Measures Area

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

|             | ROG      | NOx     | CO       | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2       | Total CO2       | CH4    | N2O    | CO2e            |
|-------------|----------|---------|----------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------------|-----------------|--------|--------|-----------------|
| Category    | lb/day   |         |          |        |               |              |            |                |               |             | lb/day   |                 |                 |        |        |                 |
| Mitigated   | 182.5692 | 79.6881 | 318.6497 | 0.5028 |               | 7.7637       | 7.7637     |                | 7.7637        | 7.7637      | 0.0000   | 98,041.97<br>43 | 98,041.97<br>43 | 2.3688 | 1.7880 | 98,634.00<br>50 |
| Unmitigated | 182.5692 | 79.6881 | 318.6497 | 0.5028 |               | 7.7637       | 7.7637     |                | 7.7637        | 7.7637      | 0.0000   | 98,041.97<br>43 | 98,041.97<br>43 | 2.3688 | 1.7880 | 98,634.00<br>50 |

## 6.2 Area by SubCategory

Unmitigated

|                       | ROG             | NOx            | CO              | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2               | Total CO2               | CH4           | N2O           | CO2e                    |
|-----------------------|-----------------|----------------|-----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------------|-------------------------|---------------|---------------|-------------------------|
| SubCategory           | lb/day          |                |                 |               |               |               |               |                |               |               | lb/day        |                         |                         |               |               |                         |
| Architectural Coating | 29.2530         |                |                 |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                         | 0.0000                  |               |               | 0.0000                  |
| Consumer Products     | 135.6986        |                |                 |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                         | 0.0000                  |               |               | 0.0000                  |
| Hearth                | 8.9398          | 76.3944        | 32.5082         | 0.4876        |               | 6.1766        | 6.1766        |                | 6.1766        | 6.1766        | 0.0000        | 97,524.70<br>59         | 97,524.70<br>59         | 1.8692        | 1.7880        | 98,104.24<br>65         |
| Landscaping           | 8.6779          | 3.2938         | 286.1414        | 0.0152        |               | 1.5871        | 1.5871        |                | 1.5871        | 1.5871        |               | 517.2685                | 517.2685                | 0.4996        |               | 529.7586                |
| <b>Total</b>          | <b>182.5692</b> | <b>79.6881</b> | <b>318.6497</b> | <b>0.5028</b> |               | <b>7.7637</b> | <b>7.7637</b> |                | <b>7.7637</b> | <b>7.7637</b> | <b>0.0000</b> | <b>98,041.97<br/>43</b> | <b>98,041.97<br/>43</b> | <b>2.3688</b> | <b>1.7880</b> | <b>98,634.00<br/>50</b> |



## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

**6.2 Area by SubCategory****Mitigated**

|                       | ROG             | NOx            | CO              | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|-----------------------|-----------------|----------------|-----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory           | lb/day          |                |                 |               |               |               |               |                |               |               | lb/day        |                    |                    |               |               |                    |
| Architectural Coating | 29.2530         |                |                 |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                    | 0.0000             |               |               | 0.0000             |
| Consumer Products     | 135.6986        |                |                 |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                    | 0.0000             |               |               | 0.0000             |
| Hearth                | 8.9398          | 76.3944        | 32.5082         | 0.4876        |               | 6.1766        | 6.1766        |                | 6.1766        | 6.1766        | 0.0000        | 97,524.7059        | 97,524.7059        | 1.8692        | 1.7880        | 98,104.2465        |
| Landscaping           | 8.6779          | 3.2938         | 286.1414        | 0.0152        |               | 1.5871        | 1.5871        |                | 1.5871        | 1.5871        |               | 517.2685           | 517.2685           | 0.4996        |               | 529.7586           |
| <b>Total</b>          | <b>182.5692</b> | <b>79.6881</b> | <b>318.6497</b> | <b>0.5028</b> |               | <b>7.7637</b> | <b>7.7637</b> |                | <b>7.7637</b> | <b>7.7637</b> | <b>0.0000</b> | <b>98,041.9743</b> | <b>98,041.9743</b> | <b>2.3688</b> | <b>1.7880</b> | <b>98,634.0050</b> |

**7.0 Water Detail****7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Summer

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

## Hunters Point Shipyard Phase II - Operational - CAP Analysis

### San Francisco County, Winter

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses                    | Size     | Metric        | Lot Acreage | Floor Surface Area | Population |
|------------------------------|----------|---------------|-------------|--------------------|------------|
| General Office Building      | 255.00   | 1000sqft      | 3.10        | 255,000.00         | 0          |
| Research & Development       | 4,146.50 | 1000sqft      | 51.10       | 4,146,500.00       | 0          |
| High School                  | 300.00   | Student       | 0.50        | 27,857.00          | 0          |
| Junior College (2Yr)         | 400.00   | Student       | 0.20        | 37,142.00          | 0          |
| Junior High School           | 1,012.00 | Student       | 1.50        | 345,000.00         | 0          |
| Enclosed Parking Structure   | 3,454.00 | Space         | 16.70       | 1,381,600.00       | 0          |
| Parking Lot                  | 1,487.00 | Space         | 7.20        | 594,800.00         | 0          |
| Unenclosed Parking Structure | 7,119.00 | Space         | 34.40       | 2,847,600.00       | 0          |
| City Park                    | 249.00   | Acre          | 249.00      | 10,846,440.00      | 0          |
| Health Club                  | 50.00    | 1000sqft      | 0.60        | 50,000.00          | 0          |
| Hotel                        | 175.00   | Room          | 3.10        | 120,000.00         | 0          |
| Apartments Mid Rise          | 3,454.00 | Dwelling Unit | 48.70       | 3,454,000.00       | 9878       |
| Regional Shopping Center     | 100.00   | 1000sqft      | 1.20        | 100,000.00         | 0          |
| Strip Mall                   | 301.00   | 1000sqft      | 3.70        | 301,000.00         | 0          |

### 1.2 Other Project Characteristics

|                 |                                |                  |      |                           |    |
|-----------------|--------------------------------|------------------|------|---------------------------|----|
| Urbanization    | Urban                          | Wind Speed (m/s) | 4.6  | Precipitation Freq (Days) | 64 |
| Climate Zone    | 5                              | Operational Year | 2032 |                           |    |
| Utility Company | Pacific Gas & Electric Company |                  |      |                           |    |

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

|                                    |       |                                    |       |                                    |       |
|------------------------------------|-------|------------------------------------|-------|------------------------------------|-------|
| <b>CO2 Intensity</b><br>(lb/MWahr) | 286.7 | <b>CH4 Intensity</b><br>(lb/MWahr) | 0.029 | <b>N2O Intensity</b><br>(lb/MWahr) | 0.006 |
|------------------------------------|-------|------------------------------------|-------|------------------------------------|-------|

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Based on construction schedule, assumed start date is 01/01/2018.

CO2 emissions intensity for 2032 based on a 50% RPS for 2030, calculated by averaging CO2 intensity for 2013,2014 and 2015 as the baseline. CH4 and N2O intensity is similar to PG&E.

Land Use - Land uses based on information provided by Client. Total acreage in EIR is 421. Lot acreages have been scaled down accordingly. Acreage for city park remains the same. Assumed zero building area in city parks.

Construction Phase - Zero'ed out construction since this was calculated separately.

Off-road Equipment -

Trips and VMT - Not modifying anything here since construction is modeled separately.

On-road Fugitive Dust - Not modifying anything here since construction is modeled separately.

Demolition -

Grading - Not modifying anything here since construction is modeled separately.

Architectural Coating - Not modifying anything here since construction is modeled separately.

Vehicle Trips - Trip rates calculated based on traffic data from F&P on 3/28/2018. Adjusted total trips are calculated based on CalEEMod default trip generation rates. Trip lengths are from EIR AQ section for Hunters point.

Woodstoves - No wood-stoves in project location. Assuming there are 3454 natural gas fireplaces, that operate for 4 hours a day for 50 days (200 hours/year).

Consumer Products - Consumer product emissions factor for San Francisco.

Energy Use -

Water And Wastewater - Water usage for Hunters Point is based on EIR water usage.

Solid Waste - Solid water disposal rate for Hunter's point is based on EIR disposal rates.

| Table Name           | Column Name | Default Value | New Value |
|----------------------|-------------|---------------|-----------|
| tblConstructionPhase | NumDays     | 550.00        | 0.00      |
| tblConstructionPhase | NumDays     | 7,750.00      | 0.00      |
| tblConstructionPhase | NumDays     | 500.00        | 0.00      |
| tblConstructionPhase | NumDays     | 775.00        | 0.00      |

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

|                      |                   |            |            |
|----------------------|-------------------|------------|------------|
| tblConstructionPhase | NumDays           | 550.00     | 0.00       |
| tblConstructionPhase | NumDays           | 300.00     | 0.00       |
| tblConsumerProducts  | ROG_EF            | 2.14E-05   | 1.51E-05   |
| tblFireplaces        | FireplaceDayYear  | 11.14      | 50.00      |
| tblFireplaces        | FireplaceHourDay  | 3.50       | 4.00       |
| tblFireplaces        | FireplaceWoodMass | 228.80     | 0.00       |
| tblFireplaces        | NumberGas         | 518.10     | 3,454.00   |
| tblFireplaces        | NumberNoFireplace | 138.16     | 0.00       |
| tblFireplaces        | NumberWood        | 587.18     | 0.00       |
| tblGrading           | AcresOfGrading    | 0.00       | 1,937.50   |
| tblLandUse           | LandUseSquareFeet | 39,798.29  | 27,857.00  |
| tblLandUse           | LandUseSquareFeet | 17,460.89  | 37,142.00  |
| tblLandUse           | LandUseSquareFeet | 118,972.42 | 345,000.00 |
| tblLandUse           | LandUseSquareFeet | 254,100.00 | 120,000.00 |
| tblLandUse           | LotAcreage        | 5.85       | 3.10       |
| tblLandUse           | LotAcreage        | 95.19      | 51.10      |
| tblLandUse           | LotAcreage        | 0.91       | 0.50       |
| tblLandUse           | LotAcreage        | 0.40       | 0.20       |
| tblLandUse           | LotAcreage        | 2.73       | 1.50       |
| tblLandUse           | LotAcreage        | 31.09      | 16.70      |
| tblLandUse           | LotAcreage        | 13.38      | 7.20       |
| tblLandUse           | LotAcreage        | 64.07      | 34.40      |
| tblLandUse           | LotAcreage        | 1.15       | 0.60       |
| tblLandUse           | LotAcreage        | 5.83       | 3.10       |
| tblLandUse           | LotAcreage        | 90.89      | 48.70      |
| tblLandUse           | LotAcreage        | 2.30       | 1.20       |
| tblLandUse           | LotAcreage        | 6.91       | 3.70       |

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

[illegible]

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

|                 |        |       |       |
|-----------------|--------|-------|-------|
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | CNW_TL | 7.30  | 7.40  |
| tblVehicleTrips | HO_TL  | 5.70  | 7.50  |
| tblVehicleTrips | HS_TL  | 4.80  | 7.30  |
| tblVehicleTrips | ST_TR  | 6.39  | 2.60  |
| tblVehicleTrips | ST_TR  | 22.75 | 9.27  |
| tblVehicleTrips | ST_TR  | 2.46  | 1.00  |
| tblVehicleTrips | ST_TR  | 20.87 | 8.51  |
| tblVehicleTrips | ST_TR  | 0.61  | 0.25  |
| tblVehicleTrips | ST_TR  | 8.19  | 3.34  |
| tblVehicleTrips | ST_TR  | 0.42  | 0.17  |
| tblVehicleTrips | ST_TR  | 49.97 | 20.37 |
| tblVehicleTrips | ST_TR  | 1.90  | 0.77  |
| tblVehicleTrips | ST_TR  | 42.04 | 17.13 |
| tblVehicleTrips | SU_TR  | 5.86  | 2.39  |
| tblVehicleTrips | SU_TR  | 16.74 | 6.82  |

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

|                 |                    |                |               |
|-----------------|--------------------|----------------|---------------|
| tblVehicleTrips | SU_TR              | 1.05           | 0.43          |
| tblVehicleTrips | SU_TR              | 26.73          | 10.89         |
| tblVehicleTrips | SU_TR              | 0.25           | 0.10          |
| tblVehicleTrips | SU_TR              | 5.95           | 2.43          |
| tblVehicleTrips | SU_TR              | 0.04           | 0.00          |
| tblVehicleTrips | SU_TR              | 25.24          | 10.29         |
| tblVehicleTrips | SU_TR              | 1.11           | 0.45          |
| tblVehicleTrips | SU_TR              | 20.43          | 8.33          |
| tblVehicleTrips | WD_TR              | 6.65           | 2.71          |
| tblVehicleTrips | WD_TR              | 1.89           | 0.77          |
| tblVehicleTrips | WD_TR              | 11.03          | 4.50          |
| tblVehicleTrips | WD_TR              | 32.93          | 13.42         |
| tblVehicleTrips | WD_TR              | 1.71           | 0.70          |
| tblVehicleTrips | WD_TR              | 8.17           | 3.33          |
| tblVehicleTrips | WD_TR              | 1.23           | 0.50          |
| tblVehicleTrips | WD_TR              | 1.62           | 0.66          |
| tblVehicleTrips | WD_TR              | 42.70          | 17.40         |
| tblVehicleTrips | WD_TR              | 8.11           | 3.31          |
| tblVehicleTrips | WD_TR              | 44.32          | 18.06         |
| tblWater        | IndoorWaterUseRate | 225,042,004.50 | 64,193,343.00 |
| tblWater        | IndoorWaterUseRate | 45,322,105.74  | 4,525,996.00  |
| tblWater        | IndoorWaterUseRate | 2,957,157.20   | 2,262,998.00  |
| tblWater        | IndoorWaterUseRate | 1,321,488.00   | 1,321,500.00  |
| tblWater        | IndoorWaterUseRate | 4,439,184.75   | 4,439,225.00  |
| tblWater        | IndoorWaterUseRate | 856,440.00     | 856,400.00    |
| tblWater        | IndoorWaterUseRate | 2,453,330.88   | 2,453,088.00  |
| tblWater        | IndoorWaterUseRate | 7,407,252.15   | 7,407,300.00  |



## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

|               |                     |                  |                |
|---------------|---------------------|------------------|----------------|
| tblWater      | IndoorWaterUseRate  | 2,038,808,952.08 | 214,913,095.00 |
| tblWater      | IndoorWaterUseRate  | 22,295,828.97    | 10,898,661.00  |
| tblWater      | OutdoorWaterUseRate | 141,874,307.18   | 40,469,374.00  |
| tblWater      | OutdoorWaterUseRate | 296,678,856.07   | 57,332,268.00  |
| tblWater      | OutdoorWaterUseRate | 27,778,064.81    | 2,774,004.00   |
| tblWater      | OutdoorWaterUseRate | 1,812,451.19     | 1,387,002.00   |
| tblWater      | OutdoorWaterUseRate | 3,398,112.00     | 3,398,100.00   |
| tblWater      | OutdoorWaterUseRate | 493,242.75       | 493,325.00     |
| tblWater      | OutdoorWaterUseRate | 1,339,560.00     | 1,339,600.00   |
| tblWater      | OutdoorWaterUseRate | 6,308,565.12     | 6,308,808.00   |
| tblWater      | OutdoorWaterUseRate | 4,539,928.74     | 4,539,900.00   |
| tblWater      | OutdoorWaterUseRate | 13,665,185.50    | 6,679,739.00   |
| tblWoodstoves | NumberCatalytic     | 69.08            | 0.00           |
| tblWoodstoves | NumberNoncatalytic  | 69.08            | 0.00           |
| tblWoodstoves | WoodstoveDayYear    | 14.12            | 0.00           |
| tblWoodstoves | WoodstoveWoodMass   | 582.40           | 0.00           |

## 2.0 Emissions Summary

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Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

## 2.1 Overall Construction (Maximum Daily Emission)

### Mitigated Construction

[illegible][illegible]

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

**2.2 Overall Operational****Unmitigated Operational**

|              | ROG             | NOx             | CO              | SO2           | Fugitive PM10   | Exhaust PM10   | PM10 Total      | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2      | NBio- CO2                | Total CO2                | CH4           | N2O           | CO2e                     |
|--------------|-----------------|-----------------|-----------------|---------------|-----------------|----------------|-----------------|----------------|----------------|----------------|---------------|--------------------------|--------------------------|---------------|---------------|--------------------------|
| Category     | lb/day          |                 |                 |               |                 |                |                 |                |                |                | lb/day        |                          |                          |               |               |                          |
| Area         | 182.5692        | 79.6881         | 318.6497        | 0.5028        |                 | 7.7637         | 7.7637          |                | 7.7637         | 7.7637         | 0.0000        | 98,041.97<br>43          | 98,041.97<br>43          | 2.3688        | 1.7880        | 98,634.00<br>50          |
| Energy       | 4.5083          | 40.4983         | 30.8630         | 0.2459        |                 | 3.1148         | 3.1148          |                | 3.1148         | 3.1148         |               | 49,181.12<br>54          | 49,181.12<br>54          | 0.9426        | 0.9017        | 49,473.38<br>42          |
| Mobile       | 29.8182         | 136.0519        | 350.5438        | 1.5540        | 181.0342        | 1.1439         | 182.1780        | 48.5406        | 1.0659         | 49.6065        |               | 158,862.6<br>122         | 158,862.6<br>122         | 6.2174        |               | 159,018.0<br>474         |
| <b>Total</b> | <b>216.8957</b> | <b>256.2383</b> | <b>700.0564</b> | <b>2.3027</b> | <b>181.0342</b> | <b>12.0224</b> | <b>193.0566</b> | <b>48.5406</b> | <b>11.9444</b> | <b>60.4850</b> | <b>0.0000</b> | <b>306,085.7<br/>119</b> | <b>306,085.7<br/>119</b> | <b>9.5289</b> | <b>2.6896</b> | <b>307,125.4<br/>366</b> |

**Mitigated Operational**

|              | ROG             | NOx             | CO              | SO2           | Fugitive PM10   | Exhaust PM10   | PM10 Total      | Fugitive PM2.5 | Exhaust PM2.5  | PM2.5 Total    | Bio- CO2      | NBio- CO2                | Total CO2                | CH4           | N2O           | CO2e                     |
|--------------|-----------------|-----------------|-----------------|---------------|-----------------|----------------|-----------------|----------------|----------------|----------------|---------------|--------------------------|--------------------------|---------------|---------------|--------------------------|
| Category     | lb/day          |                 |                 |               |                 |                |                 |                |                |                | lb/day        |                          |                          |               |               |                          |
| Area         | 182.5692        | 79.6881         | 318.6497        | 0.5028        |                 | 7.7637         | 7.7637          |                | 7.7637         | 7.7637         | 0.0000        | 98,041.97<br>43          | 98,041.97<br>43          | 2.3688        | 1.7880        | 98,634.00<br>50          |
| Energy       | 4.5083          | 40.4983         | 30.8630         | 0.2459        |                 | 3.1148         | 3.1148          |                | 3.1148         | 3.1148         |               | 49,181.12<br>54          | 49,181.12<br>54          | 0.9426        | 0.9017        | 49,473.38<br>42          |
| Mobile       | 29.8182         | 136.0519        | 350.5438        | 1.5540        | 181.0342        | 1.1439         | 182.1780        | 48.5406        | 1.0659         | 49.6065        |               | 158,862.6<br>122         | 158,862.6<br>122         | 6.2174        |               | 159,018.0<br>474         |
| <b>Total</b> | <b>216.8957</b> | <b>256.2383</b> | <b>700.0564</b> | <b>2.3027</b> | <b>181.0342</b> | <b>12.0224</b> | <b>193.0566</b> | <b>48.5406</b> | <b>11.9444</b> | <b>60.4850</b> | <b>0.0000</b> | <b>306,085.7<br/>119</b> | <b>306,085.7<br/>119</b> | <b>9.5289</b> | <b>2.6896</b> | <b>307,125.4<br/>366</b> |

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

### 3.0 Construction Detail

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#### Construction Phase

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date   | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1            | Demolition            | Demolition            | 1/1/2018   | 12/31/2017 | 5             | 0        |                   |
| 2            | Site Preparation      | Site Preparation      | 2/23/2019  | 2/22/2019  | 5             | 0        |                   |
| 3            | Grading               | Grading               | 11/2/2019  | 11/1/2019  | 5             | 0        |                   |
| 4            | Building Construction | Building Construction | 8/14/2021  | 8/13/2021  | 5             | 0        |                   |
| 5            | Paving                | Paving                | 6/11/2039  | 6/10/2039  | 5             | 0        |                   |
| 6            | Architectural Coating | Architectural Coating | 9/15/2040  | 9/14/2040  | 5             | 0        |                   |

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1937.5

Acres of Paving: 58.3

Residential Indoor: 6,994,350; Residential Outdoor: 2,331,450; Non-Residential Indoor: 8,073,749; Non-Residential Outdoor: 2,691,250; Striped Parking Area: 289,440 (Architectural Coating – sqft)

#### OffRoad Equipment

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

| Phase Name            | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Demolition            | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |
| Demolition            | Excavators                | 3      | 8.00        | 158         | 0.38        |
| Demolition            | Rubber Tired Dozers       | 2      | 8.00        | 247         | 0.40        |
| Site Preparation      | Rubber Tired Dozers       | 3      | 8.00        | 247         | 0.40        |
| Site Preparation      | Tractors/Loaders/Backhoes | 4      | 8.00        | 97          | 0.37        |
| Grading               | Excavators                | 2      | 8.00        | 158         | 0.38        |
| Grading               | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Grading               | Rubber Tired Dozers       | 1      | 8.00        | 247         | 0.40        |
| Grading               | Scrapers                  | 2      | 8.00        | 367         | 0.48        |
| Grading               | Tractors/Loaders/Backhoes | 2      | 8.00        | 97          | 0.37        |
| Building Construction | Cranes                    | 1      | 7.00        | 231         | 0.29        |
| Building Construction | Forklifts                 | 3      | 8.00        | 89          | 0.20        |
| Building Construction | Generator Sets            | 1      | 8.00        | 84          | 0.74        |
| Building Construction | Tractors/Loaders/Backhoes | 3      | 7.00        | 97          | 0.37        |
| Building Construction | Welders                   | 1      | 8.00        | 46          | 0.45        |
| Paving                | Pavers                    | 2      | 8.00        | 130         | 0.42        |
| Paving                | Paving Equipment          | 2      | 8.00        | 132         | 0.36        |
| Paving                | Rollers                   | 2      | 8.00        | 80          | 0.38        |
| Architectural Coating | Air Compressors           | 1      | 6.00        | 78          | 0.48        |

Trips and VMT

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition            | 6                       | 15.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 7                       | 18.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Grading               | 8                       | 20.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 9                       | 10,887.00          | 3,839.00           | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Paving                | 6                       | 15.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 1                       | 2,177.00           | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

### 3.1 Mitigation Measures Construction

### 3.3 Site Preparation - 2019

### Unmitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

### 3.3 Site Preparation - 2019

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]



Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

### 3.3 Site Preparation - 2019

### Mitigated Construction Off-Site

[illegible]

### 3.4 Grading - 2019

### Unmitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

### 3.4 Grading - 2019

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

### 3.4 Grading - 2019

### Mitigated Construction Off-Site

[illegible]

### 3.5 Building Construction - 2021

### Unmitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

### 3.5 Building Construction - 2021

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

### 3.5 Building Construction - 2021

### Mitigated Construction Off-Site

[illegible]

### 3.6 Paving - 2039

### Unmitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

### 3.6 Paving - 2039

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

### 3.6 Paving - 2039

### Mitigated Construction Off-Site

[illegible]

### 3.7 Architectural Coating - 2040

### Unmitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

### 3.7 Architectural Coating - 2040

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]



## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

**3.7 Architectural Coating - 2040****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

|             | ROG     | NOx      | CO       | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2        | Total CO2        | CH4    | N2O | CO2e             |
|-------------|---------|----------|----------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------------|------------------|--------|-----|------------------|
| Category    | lb/day  |          |          |        |               |              |            |                |               |             | lb/day   |                  |                  |        |     |                  |
| Mitigated   | 29.8182 | 136.0519 | 350.5438 | 1.5540 | 181.0342      | 1.1439       | 182.1780   | 48.5406        | 1.0659        | 49.6065     |          | 158,862.6<br>122 | 158,862.6<br>122 | 6.2174 |     | 159,018.0<br>474 |
| Unmitigated | 29.8182 | 136.0519 | 350.5438 | 1.5540 | 181.0342      | 1.1439       | 182.1780   | 48.5406        | 1.0659        | 49.6065     |          | 158,862.6<br>122 | 158,862.6<br>122 | 6.2174 |     | 159,018.0<br>474 |

## 4.2 Trip Summary Information

| Land Use                     | Average Daily Trip Rate |           |           | Unmitigated | Mitigated  |
|------------------------------|-------------------------|-----------|-----------|-------------|------------|
|                              | Weekday                 | Saturday  | Sunday    | Annual VMT  | Annual VMT |
| Apartments Mid Rise          | 9,361.59                | 8,995.57  | 8249.46   | 25,115,682  | 25,115,682 |
| City Park                    | 191.81                  | 2,308.80  | 1698.87   | 1,527,374   | 1,527,374  |
| Enclosed Parking Structure   | 0.00                    | 0.00      | 0.00      |             |            |
| General Office Building      | 1,146.36                | 255.67    | 109.13    | 2,098,703   | 2,098,703  |
| Health Club                  | 671.07                  | 425.30    | 544.72    | 1,079,084   | 1,079,084  |
| High School                  | 209.09                  | 74.59     | 30.57     | 431,402     | 431,402    |
| Hotel                        | 582.73                  | 584.15    | 424.39    | 1,075,649   | 1,075,649  |
| Junior College (2Yr)         | 200.53                  | 68.47     | 0.00      | 393,474     | 393,474    |
| Junior High School           | 668.19                  | 0.00      | 0.00      | 1,076,290   | 1,076,290  |
| Parking Lot                  | 0.00                    | 0.00      | 0.00      |             |            |
| Regional Shopping Center     | 1,740.34                | 2,036.64  | 1028.71   | 2,979,454   | 2,979,454  |
| Research & Development       | 13,705.92               | 3,211.00  | 1875.90   | 26,577,238  | 26,577,238 |
| Strip Mall                   | 5,437.16                | 5,157.45  | 2506.34   | 7,750,195   | 7,750,195  |
| Unenclosed Parking Structure | 0.00                    | 0.00      | 0.00      |             |            |
| Total                        | 33,914.77               | 23,117.65 | 16,468.09 | 70,104,545  | 70,104,545 |

## 4.3 Trip Type Information

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

| Land Use                     | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                              | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Apartments Mid Rise          | 10.80      | 7.30       | 7.50        | 31.00      | 15.00      | 54.00       | 86             | 11       | 3       |
| City Park                    | 9.50       | 7.40       | 7.40        | 33.00      | 48.00      | 19.00       | 66             | 28       | 6       |
| Enclosed Parking Structure   | 9.50       | 7.40       | 7.40        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| General Office Building      | 9.50       | 7.40       | 7.40        | 33.00      | 48.00      | 19.00       | 77             | 19       | 4       |
| Health Club                  | 9.50       | 7.40       | 7.40        | 16.90      | 64.10      | 19.00       | 52             | 39       | 9       |
| High School                  | 9.50       | 7.40       | 7.40        | 77.80      | 17.20      | 5.00        | 75             | 19       | 6       |
| Hotel                        | 9.50       | 7.40       | 7.40        | 19.40      | 61.60      | 19.00       | 58             | 38       | 4       |
| Junior College (2Yr)         | 9.50       | 7.40       | 7.40        | 6.40       | 88.60      | 5.00        | 92             | 7        | 1       |
| Junior High School           | 9.50       | 7.40       | 7.40        | 72.80      | 22.20      | 5.00        | 63             | 25       | 12      |
| Parking Lot                  | 9.50       | 7.40       | 7.40        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Regional Shopping Center     | 9.50       | 7.40       | 7.40        | 16.30      | 64.70      | 19.00       | 54             | 35       | 11      |
| Research & Development       | 9.50       | 7.40       | 7.40        | 33.00      | 48.00      | 19.00       | 82             | 15       | 3       |
| Strip Mall                   | 9.50       | 7.40       | 7.40        | 16.60      | 64.40      | 19.00       | 45             | 40       | 15      |
| Unenclosed Parking Structure | 9.50       | 7.40       | 7.40        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |

## 4.4 Fleet Mix

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

| Land Use                     | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Apartments Mid Rise          | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| City Park                    | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Enclosed Parking Structure   | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| General Office Building      | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Health Club                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| High School                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Hotel                        | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Junior College (2Yr)         | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Junior High School           | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Parking Lot                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Regional Shopping Center     | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Research & Development       | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Strip Mall                   | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Unenclosed Parking Structure | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |

## 5.0 Energy Detail

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Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

|                        | ROG    | NOx     | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4    | N2O    | CO2e        |
|------------------------|--------|---------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|--------|-------------|
| Category               | lb/day |         |         |        |               |              |            |                |               |             | lb/day   |             |             |        |        |             |
| NaturalGas Mitigated   | 4.5083 | 40.4983 | 30.8630 | 0.2459 |               | 3.1148       | 3.1148     |                | 3.1148        | 3.1148      |          | 49,181.1254 | 49,181.1254 | 0.9426 | 0.9017 | 49,473.3842 |
| NaturalGas Unmitigated | 4.5083 | 40.4983 | 30.8630 | 0.2459 |               | 3.1148       | 3.1148     |                | 3.1148        | 3.1148      |          | 49,181.1254 | 49,181.1254 | 0.9426 | 0.9017 | 49,473.3842 |

## 5.2 Energy by Land Use - NaturalGas

Unmitigated

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

|                              | NaturalGas Use | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|------------------------------|----------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|---------------|--------------------|
| Land Use                     | kBTU/yr        | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                    |                    |               |               |                    |
| Apartments Mid Rise          | 82616.2        | 0.8910        | 7.6137         | 3.2399         | 0.0486        |               | 0.6156        | 0.6156        |                | 0.6156        | 0.6156        |          | 9,719.5504         | 9,719.5504         | 0.1863        | 0.1782        | 9,777.3089         |
| City Park                    | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Enclosed Parking Structure   | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| General Office Building      | 13504.5        | 0.1456        | 1.3240         | 1.1121         | 7.9400e-003   |               | 0.1006        | 0.1006        |                | 0.1006        | 0.1006        |          | 1,588.7671         | 1,588.7671         | 0.0305        | 0.0291        | 1,598.2084         |
| Health Club                  | 3390.41        | 0.0366        | 0.3324         | 0.2792         | 1.9900e-003   |               | 0.0253        | 0.0253        |                | 0.0253        | 0.0253        |          | 398.8719           | 398.8719           | 7.6500e-003   | 7.3100e-003   | 401.2422           |
| High School                  | 1257           | 0.0136        | 0.1232         | 0.1035         | 7.4000e-004   |               | 9.3700e-003   | 9.3700e-003   |                | 9.3700e-003   | 9.3700e-003   |          | 147.8823           | 147.8823           | 2.8300e-003   | 2.7100e-003   | 148.7611           |
| Hotel                        | 12003.3        | 0.1295        | 1.1768         | 0.9885         | 7.0600e-003   |               | 0.0894        | 0.0894        |                | 0.0894        | 0.0894        |          | 1,412.1515         | 1,412.1515         | 0.0271        | 0.0259        | 1,420.5432         |
| Junior College (2Yr)         | 3480.15        | 0.0375        | 0.3412         | 0.2866         | 2.0500e-003   |               | 0.0259        | 0.0259        |                | 0.0259        | 0.0259        |          | 409.4299           | 409.4299           | 7.8500e-003   | 7.5100e-003   | 411.8630           |
| Junior High School           | 15567.5        | 0.1679        | 1.5262         | 1.2820         | 9.1600e-003   |               | 0.1160        | 0.1160        |                | 0.1160        | 0.1160        |          | 1,831.4746         | 1,831.4746         | 0.0351        | 0.0336        | 1,842.3582         |
| Parking Lot                  | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Regional Shopping Center     | 1260.27        | 0.0136        | 0.1236         | 0.1038         | 7.4000e-004   |               | 9.3900e-003   | 9.3900e-003   |                | 9.3900e-003   | 9.3900e-003   |          | 148.2675           | 148.2675           | 2.8400e-003   | 2.7200e-003   | 149.1486           |
| Research & Development       | 281167         | 3.0322        | 27.5654        | 23.1549        | 0.1654        |               | 2.0950        | 2.0950        |                | 2.0950        | 2.0950        |          | 33,078.4448        | 33,078.4448        | 0.6340        | 0.6064        | 33,275.0135        |
| Strip Mall                   | 3793.42        | 0.0409        | 0.3719         | 0.3124         | 2.2300e-003   |               | 0.0283        | 0.0283        |                | 0.0283        | 0.0283        |          | 446.2853           | 446.2853           | 8.5500e-003   | 8.1800e-003   | 448.9373           |
| Unenclosed Parking Structure | 0              | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| <b>Total</b>                 |                | <b>4.5083</b> | <b>40.4983</b> | <b>30.8630</b> | <b>0.2459</b> |               | <b>3.1148</b> | <b>3.1148</b> |                | <b>3.1148</b> | <b>3.1148</b> |          | <b>49,181.1254</b> | <b>49,181.1254</b> | <b>0.9426</b> | <b>0.9017</b> | <b>49,473.3842</b> |

## 5.2 Energy by Land Use - NaturalGas

Mitigated

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

|                              | Natural Gas Use | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|------------------------------|-----------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|---------------|---------------|--------------------|
| Land Use                     | kBTU/yr         | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                    |                    |               |               |                    |
| Apartments Mid Rise          | 82.6162         | 0.8910        | 7.6137         | 3.2399         | 0.0486        |               | 0.6156        | 0.6156        |                | 0.6156        | 0.6156        |          | 9,719.5504         | 9,719.5504         | 0.1863        | 0.1782        | 9,777.3089         |
| City Park                    | 0               | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Enclosed Parking Structure   | 0               | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| General Office Building      | 13.5045         | 0.1456        | 1.3240         | 1.1121         | 7.9400e-003   |               | 0.1006        | 0.1006        |                | 0.1006        | 0.1006        |          | 1,588.7671         | 1,588.7671         | 0.0305        | 0.0291        | 1,598.2084         |
| Health Club                  | 3.39041         | 0.0366        | 0.3324         | 0.2792         | 1.9900e-003   |               | 0.0253        | 0.0253        |                | 0.0253        | 0.0253        |          | 398.8719           | 398.8719           | 7.6500e-003   | 7.3100e-003   | 401.2422           |
| High School                  | 1.257           | 0.0136        | 0.1232         | 0.1035         | 7.4000e-004   |               | 9.3700e-003   | 9.3700e-003   |                | 9.3700e-003   | 9.3700e-003   |          | 147.8823           | 147.8823           | 2.8300e-003   | 2.7100e-003   | 148.7611           |
| Hotel                        | 12.0033         | 0.1295        | 1.1768         | 0.9885         | 7.0600e-003   |               | 0.0894        | 0.0894        |                | 0.0894        | 0.0894        |          | 1,412.1515         | 1,412.1515         | 0.0271        | 0.0259        | 1,420.5432         |
| Junior College (2Yr)         | 3.48015         | 0.0375        | 0.3412         | 0.2866         | 2.0500e-003   |               | 0.0259        | 0.0259        |                | 0.0259        | 0.0259        |          | 409.4299           | 409.4299           | 7.8500e-003   | 7.5100e-003   | 411.8630           |
| Junior High School           | 15.5675         | 0.1679        | 1.5262         | 1.2820         | 9.1600e-003   |               | 0.1160        | 0.1160        |                | 0.1160        | 0.1160        |          | 1,831.4746         | 1,831.4746         | 0.0351        | 0.0336        | 1,842.3582         |
| Parking Lot                  | 0               | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Regional Shopping Center     | 1.26027         | 0.0136        | 0.1236         | 0.1038         | 7.4000e-004   |               | 9.3900e-003   | 9.3900e-003   |                | 9.3900e-003   | 9.3900e-003   |          | 148.2675           | 148.2675           | 2.8400e-003   | 2.7200e-003   | 149.1486           |
| Research & Development       | 281.167         | 3.0322        | 27.5654        | 23.1549        | 0.1654        |               | 2.0950        | 2.0950        |                | 2.0950        | 2.0950        |          | 33,078.4448        | 33,078.4448        | 0.6340        | 0.6064        | 33,275.0135        |
| Strip Mall                   | 3.79342         | 0.0409        | 0.3719         | 0.3124         | 2.2300e-003   |               | 0.0283        | 0.0283        |                | 0.0283        | 0.0283        |          | 446.2853           | 446.2853           | 8.5500e-003   | 8.1800e-003   | 448.9373           |
| Unenclosed Parking Structure | 0               | 0.0000        | 0.0000         | 0.0000         | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| <b>Total</b>                 |                 | <b>4.5083</b> | <b>40.4983</b> | <b>30.8630</b> | <b>0.2459</b> |               | <b>3.1148</b> | <b>3.1148</b> |                | <b>3.1148</b> | <b>3.1148</b> |          | <b>49,181.1254</b> | <b>49,181.1254</b> | <b>0.9426</b> | <b>0.9017</b> | <b>49,473.3842</b> |

## 6.0 Area Detail

## 6.1 Mitigation Measures Area

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

|             | ROG      | NOx     | CO       | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2       | Total CO2       | CH4    | N2O    | CO2e            |
|-------------|----------|---------|----------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------------|-----------------|--------|--------|-----------------|
| Category    | lb/day   |         |          |        |               |              |            |                |               |             | lb/day   |                 |                 |        |        |                 |
| Mitigated   | 182.5692 | 79.6881 | 318.6497 | 0.5028 |               | 7.7637       | 7.7637     |                | 7.7637        | 7.7637      | 0.0000   | 98,041.97<br>43 | 98,041.97<br>43 | 2.3688 | 1.7880 | 98,634.00<br>50 |
| Unmitigated | 182.5692 | 79.6881 | 318.6497 | 0.5028 |               | 7.7637       | 7.7637     |                | 7.7637        | 7.7637      | 0.0000   | 98,041.97<br>43 | 98,041.97<br>43 | 2.3688 | 1.7880 | 98,634.00<br>50 |

## 6.2 Area by SubCategory

Unmitigated

|                       | ROG             | NOx            | CO              | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2               | Total CO2               | CH4           | N2O           | CO2e                    |
|-----------------------|-----------------|----------------|-----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------------|-------------------------|---------------|---------------|-------------------------|
| SubCategory           | lb/day          |                |                 |               |               |               |               |                |               |               | lb/day        |                         |                         |               |               |                         |
| Architectural Coating | 29.2530         |                |                 |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                         | 0.0000                  |               |               | 0.0000                  |
| Consumer Products     | 135.6986        |                |                 |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                         | 0.0000                  |               |               | 0.0000                  |
| Hearth                | 8.9398          | 76.3944        | 32.5082         | 0.4876        |               | 6.1766        | 6.1766        |                | 6.1766        | 6.1766        | 0.0000        | 97,524.70<br>59         | 97,524.70<br>59         | 1.8692        | 1.7880        | 98,104.24<br>65         |
| Landscaping           | 8.6779          | 3.2938         | 286.1414        | 0.0152        |               | 1.5871        | 1.5871        |                | 1.5871        | 1.5871        |               | 517.2685                | 517.2685                | 0.4996        |               | 529.7586                |
| <b>Total</b>          | <b>182.5692</b> | <b>79.6881</b> | <b>318.6497</b> | <b>0.5028</b> |               | <b>7.7637</b> | <b>7.7637</b> |                | <b>7.7637</b> | <b>7.7637</b> | <b>0.0000</b> | <b>98,041.97<br/>43</b> | <b>98,041.97<br/>43</b> | <b>2.3688</b> | <b>1.7880</b> | <b>98,634.00<br/>50</b> |



## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

**6.2 Area by SubCategory****Mitigated**

|                       | ROG             | NOx            | CO              | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2               | Total CO2               | CH4           | N2O           | CO2e                    |
|-----------------------|-----------------|----------------|-----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------------|-------------------------|---------------|---------------|-------------------------|
| SubCategory           | lb/day          |                |                 |               |               |               |               |                |               |               | lb/day        |                         |                         |               |               |                         |
| Architectural Coating | 29.2530         |                |                 |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                         | 0.0000                  |               |               | 0.0000                  |
| Consumer Products     | 135.6986        |                |                 |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                         | 0.0000                  |               |               | 0.0000                  |
| Hearth                | 8.9398          | 76.3944        | 32.5082         | 0.4876        |               | 6.1766        | 6.1766        |                | 6.1766        | 6.1766        | 0.0000        | 97,524.70<br>59         | 97,524.70<br>59         | 1.8692        | 1.7880        | 98,104.24<br>65         |
| Landscaping           | 8.6779          | 3.2938         | 286.1414        | 0.0152        |               | 1.5871        | 1.5871        |                | 1.5871        | 1.5871        |               | 517.2685                | 517.2685                | 0.4996        |               | 529.7586                |
| <b>Total</b>          | <b>182.5692</b> | <b>79.6881</b> | <b>318.6497</b> | <b>0.5028</b> |               | <b>7.7637</b> | <b>7.7637</b> |                | <b>7.7637</b> | <b>7.7637</b> | <b>0.0000</b> | <b>98,041.97<br/>43</b> | <b>98,041.97<br/>43</b> | <b>2.3688</b> | <b>1.7880</b> | <b>98,634.00<br/>50</b> |

**7.0 Water Detail****7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

## Hunters Point Shipyard Phase II - Operational - CAP Analysis - San Francisco County, Winter

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

## Hunters Point Shipyard Phase II - Operational - GHG Analysis

### San Francisco County, Annual

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses                    | Size     | Metric        | Lot Acreage | Floor Surface Area | Population |
|------------------------------|----------|---------------|-------------|--------------------|------------|
| General Office Building      | 255.00   | 1000sqft      | 3.10        | 255,000.00         | 0          |
| Research & Development       | 4,146.50 | 1000sqft      | 51.10       | 4,146,500.00       | 0          |
| High School                  | 300.00   | Student       | 0.50        | 27,857.00          | 0          |
| Junior College (2Yr)         | 400.00   | Student       | 0.20        | 37,142.00          | 0          |
| Junior High School           | 1,012.00 | Student       | 1.50        | 345,000.00         | 0          |
| Enclosed Parking Structure   | 3,454.00 | Space         | 16.70       | 1,381,600.00       | 0          |
| Parking Lot                  | 1,487.00 | Space         | 7.20        | 594,800.00         | 0          |
| Unenclosed Parking Structure | 7,119.00 | Space         | 34.40       | 2,847,600.00       | 0          |
| City Park                    | 249.00   | Acre          | 249.00      | 10,846,440.00      | 0          |
| Health Club                  | 50.00    | 1000sqft      | 0.60        | 50,000.00          | 0          |
| Hotel                        | 175.00   | Room          | 3.10        | 120,000.00         | 0          |
| Apartments Mid Rise          | 3,454.00 | Dwelling Unit | 48.70       | 3,454,000.00       | 9878       |
| Regional Shopping Center     | 100.00   | 1000sqft      | 1.20        | 100,000.00         | 0          |
| Strip Mall                   | 301.00   | 1000sqft      | 3.70        | 301,000.00         | 0          |

### 1.2 Other Project Characteristics

|                 |                                |                  |     |                           |      |
|-----------------|--------------------------------|------------------|-----|---------------------------|------|
| Urbanization    | Urban                          | Wind Speed (m/s) | 4.6 | Precipitation Freq (Days) | 64   |
| Climate Zone    | 5                              |                  |     | Operational Year          | 2032 |
| Utility Company | Pacific Gas & Electric Company |                  |     |                           |      |

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|                                   |       |                                   |       |                                   |       |
|-----------------------------------|-------|-----------------------------------|-------|-----------------------------------|-------|
| <b>CO2 Intensity</b><br>(lb/MWhr) | 286.7 | <b>CH4 Intensity</b><br>(lb/MWhr) | 0.029 | <b>N2O Intensity</b><br>(lb/MWhr) | 0.006 |
|-----------------------------------|-------|-----------------------------------|-------|-----------------------------------|-------|

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Based on construction schedule, assumed start date is 01/01/2018.

CO2 emissions intensity for 2032 based on a 50% RPS for 2030, calculated by averaging CO2 intensity for 2013,2014 and 2015 as the baseline. CH4 and N2O intensity is similar to PG&E.

Land Use - Land uses based on information provided by Client. Total acreage in EIR is 421. Lot acreages have been scaled down accordingly. Acreage for city park remains the same. Assumed zero building area in city parks.

Construction Phase - Zero'ed out construction since this was calculated separately.

Off-road Equipment -

Trips and VMT - Not modifying anything here since construction is modeled separately.

On-road Fugitive Dust - Not modifying anything here since construction is modeled separately.

Demolition -

Grading - Not modifying anything here since construction is modeled separately.

Architectural Coating - Not modifying anything here since construction is modeled separately.

Vehicle Trips - Trip rates provided by F&P on 3/28/2018. Adjusted total trips are calculated based on CalEEMod default trip generation rates. Trip lengths are from EIR GHG section for Hunters point.

Woodstoves - No wood-stoves in project location. Assuming there are 3454 natural gas fireplaces, that operate for 4 hours a day for 50 days (200 hours/year).

Consumer Products - Consumer product emissions factor for San Francisco.

Energy Use -

Water And Wastewater - Water usage for Hunters Point is based on EIR water usage.

Solid Waste - Solid water disposal rate for Hunter's point is based on EIR disposal rates.

| Table Name           | Column Name | Default Value | New Value |
|----------------------|-------------|---------------|-----------|
| tblConstructionPhase | NumDays     | 550.00        | 0.00      |
| tblConstructionPhase | NumDays     | 7,750.00      | 0.00      |
| tblConstructionPhase | NumDays     | 500.00        | 0.00      |
| tblConstructionPhase | NumDays     | 775.00        | 0.00      |
| tblConstructionPhase | NumDays     | 550.00        | 0.00      |

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|                           |                    |            |            |
|---------------------------|--------------------|------------|------------|
| tblConstructionPhase      | NumDays            | 300.00     | 0.00       |
| tblConsumerProducts       | ROG_EF             | 2.14E-05   | 1.51E-05   |
| tblFireplaces             | FireplaceDayYear   | 11.14      | 50.00      |
| tblFireplaces             | FireplaceHourDay   | 3.50       | 4.00       |
| tblFireplaces             | FireplaceWoodMass  | 228.80     | 0.00       |
| tblFireplaces             | NumberGas          | 518.10     | 3,454.00   |
| tblFireplaces             | NumberNoFireplace  | 138.16     | 0.00       |
| tblFireplaces             | NumberWood         | 587.18     | 0.00       |
| tblGrading                | AcresOfGrading     | 0.00       | 1,937.50   |
| tblLandUse                | LandUseSquareFeet  | 39,798.29  | 27,857.00  |
| tblLandUse                | LandUseSquareFeet  | 17,460.89  | 37,142.00  |
| tblLandUse                | LandUseSquareFeet  | 118,972.42 | 345,000.00 |
| tblLandUse                | LandUseSquareFeet  | 254,100.00 | 120,000.00 |
| tblLandUse                | LotAcreage         | 5.85       | 3.10       |
| tblLandUse                | LotAcreage         | 95.19      | 51.10      |
| tblLandUse                | LotAcreage         | 0.91       | 0.50       |
| tblLandUse                | LotAcreage         | 0.40       | 0.20       |
| tblLandUse                | LotAcreage         | 2.73       | 1.50       |
| tblLandUse                | LotAcreage         | 31.09      | 16.70      |
| tblLandUse                | LotAcreage         | 13.38      | 7.20       |
| tblLandUse                | LotAcreage         | 64.07      | 34.40      |
| tblLandUse                | LotAcreage         | 1.15       | 0.60       |
| tblLandUse                | LotAcreage         | 5.83       | 3.10       |
| tblLandUse                | LotAcreage         | 90.89      | 48.70      |
| tblLandUse                | LotAcreage         | 2.30       | 1.20       |
| tblLandUse                | LotAcreage         | 6.91       | 3.70       |
| tblProjectCharacteristics | CO2IntensityFactor | 641.35     | 286.7      |

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|                  |                          |           |           |
|------------------|--------------------------|-----------|-----------|
| tblSequestration | NumberOfNewTrees         | 0.00      | 5,000.00  |
| tblSolidWaste    | SolidWasteGenerationRate | 1,588.84  | 3,379.74  |
| tblSolidWaste    | SolidWasteGenerationRate | 21.41     | 22.44     |
| tblSolidWaste    | SolidWasteGenerationRate | 237.15    | 238.43    |
| tblSolidWaste    | SolidWasteGenerationRate | 285.00    | 46.75     |
| tblSolidWaste    | SolidWasteGenerationRate | 54.75     | 54.00     |
| tblSolidWaste    | SolidWasteGenerationRate | 95.81     | 161.00    |
| tblSolidWaste    | SolidWasteGenerationRate | 73.00     | 72.00     |
| tblSolidWaste    | SolidWasteGenerationRate | 184.69    | 182.16    |
| tblSolidWaste    | SolidWasteGenerationRate | 315.10    | 4,540.42  |
| tblTripsAndVMT   | VendorTripNumber         | 3,820.00  | 3,839.00  |
| tblTripsAndVMT   | WorkerTripNumber         | 10,849.00 | 10,887.00 |
| tblTripsAndVMT   | WorkerTripNumber         | 2,170.00  | 2,177.00  |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CC_TL                    | 7.30      | 9.50      |
| tblVehicleTrips  | CNW_TL                   | 7.30      | 9.10      |

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|                 |        |      |       |
|-----------------|--------|------|-------|
| tblVehicleTrips | CNW_TL | 7.30 | 9.10  |
| tblVehicleTrips | CNW_TL | 7.30 | 9.10  |
| tblVehicleTrips | CNW_TL | 7.30 | 9.10  |
| tblVehicleTrips | CNW_TL | 7.30 | 9.10  |
| tblVehicleTrips | CNW_TL | 7.30 | 9.10  |
| tblVehicleTrips | CNW_TL | 7.30 | 9.10  |
| tblVehicleTrips | CNW_TL | 7.30 | 9.10  |
| tblVehicleTrips | CNW_TL | 7.30 | 9.10  |
| tblVehicleTrips | CNW_TL | 7.30 | 9.10  |
| tblVehicleTrips | CNW_TL | 7.30 | 9.10  |
| tblVehicleTrips | CNW_TL | 7.30 | 9.10  |
| tblVehicleTrips | CNW_TL | 7.30 | 9.10  |
| tblVehicleTrips | CNW_TL | 7.30 | 9.10  |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | CW_TL  | 9.50 | 14.90 |
| tblVehicleTrips | HO_TL  | 5.70 | 9.10  |
| tblVehicleTrips | HS_TL  | 4.80 | 9.50  |

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|                 |       |       |       |
|-----------------|-------|-------|-------|
| tblVehicleTrips | HW_TL | 10.80 | 14.90 |
| tblVehicleTrips | ST_TR | 6.39  | 2.60  |
| tblVehicleTrips | ST_TR | 22.75 | 9.27  |
| tblVehicleTrips | ST_TR | 2.46  | 1.00  |
| tblVehicleTrips | ST_TR | 20.87 | 8.51  |
| tblVehicleTrips | ST_TR | 0.61  | 0.25  |
| tblVehicleTrips | ST_TR | 8.19  | 3.34  |
| tblVehicleTrips | ST_TR | 0.42  | 0.17  |
| tblVehicleTrips | ST_TR | 49.97 | 20.37 |
| tblVehicleTrips | ST_TR | 1.90  | 0.77  |
| tblVehicleTrips | ST_TR | 42.04 | 17.13 |
| tblVehicleTrips | SU_TR | 5.86  | 2.39  |
| tblVehicleTrips | SU_TR | 16.74 | 6.82  |
| tblVehicleTrips | SU_TR | 1.05  | 0.43  |
| tblVehicleTrips | SU_TR | 26.73 | 10.89 |
| tblVehicleTrips | SU_TR | 0.25  | 0.10  |
| tblVehicleTrips | SU_TR | 5.95  | 2.43  |
| tblVehicleTrips | SU_TR | 0.04  | 0.00  |
| tblVehicleTrips | SU_TR | 25.24 | 10.29 |
| tblVehicleTrips | SU_TR | 1.11  | 0.45  |
| tblVehicleTrips | SU_TR | 20.43 | 8.33  |
| tblVehicleTrips | WD_TR | 6.65  | 2.71  |
| tblVehicleTrips | WD_TR | 1.89  | 0.77  |
| tblVehicleTrips | WD_TR | 11.03 | 4.50  |
| tblVehicleTrips | WD_TR | 32.93 | 13.42 |
| tblVehicleTrips | WD_TR | 1.71  | 0.70  |
| tblVehicleTrips | WD_TR | 8.17  | 3.33  |



## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|                 |                     |                  |                |
|-----------------|---------------------|------------------|----------------|
| tblVehicleTrips | WD_TR               | 1.23             | 0.50           |
| tblVehicleTrips | WD_TR               | 1.62             | 0.66           |
| tblVehicleTrips | WD_TR               | 42.70            | 17.40          |
| tblVehicleTrips | WD_TR               | 8.11             | 3.31           |
| tblVehicleTrips | WD_TR               | 44.32            | 18.06          |
| tblWater        | IndoorWaterUseRate  | 225,042,004.50   | 64,193,343.00  |
| tblWater        | IndoorWaterUseRate  | 45,322,105.74    | 4,525,996.00   |
| tblWater        | IndoorWaterUseRate  | 2,957,157.20     | 2,262,998.00   |
| tblWater        | IndoorWaterUseRate  | 1,321,488.00     | 1,321,500.00   |
| tblWater        | IndoorWaterUseRate  | 4,439,184.75     | 4,439,225.00   |
| tblWater        | IndoorWaterUseRate  | 856,440.00       | 856,400.00     |
| tblWater        | IndoorWaterUseRate  | 2,453,330.88     | 2,453,088.00   |
| tblWater        | IndoorWaterUseRate  | 7,407,252.15     | 7,407,300.00   |
| tblWater        | IndoorWaterUseRate  | 2,038,808,952.08 | 214,913,095.00 |
| tblWater        | IndoorWaterUseRate  | 22,295,828.97    | 10,898,661.00  |
| tblWater        | OutdoorWaterUseRate | 141,874,307.18   | 40,469,374.00  |
| tblWater        | OutdoorWaterUseRate | 296,678,856.07   | 57,332,268.00  |
| tblWater        | OutdoorWaterUseRate | 27,778,064.81    | 2,774,004.00   |
| tblWater        | OutdoorWaterUseRate | 1,812,451.19     | 1,387,002.00   |
| tblWater        | OutdoorWaterUseRate | 3,398,112.00     | 3,398,100.00   |
| tblWater        | OutdoorWaterUseRate | 493,242.75       | 493,325.00     |
| tblWater        | OutdoorWaterUseRate | 1,339,560.00     | 1,339,600.00   |
| tblWater        | OutdoorWaterUseRate | 6,308,565.12     | 6,308,808.00   |
| tblWater        | OutdoorWaterUseRate | 4,539,928.74     | 4,539,900.00   |
| tblWater        | OutdoorWaterUseRate | 13,665,185.50    | 6,679,739.00   |
| tblWoodstoves   | NumberCatalytic     | 69.08            | 0.00           |
| tblWoodstoves   | NumberNoncatalytic  | 69.08            | 0.00           |

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|               |                   |        |      |
|---------------|-------------------|--------|------|
| tblWoodstoves | WoodstoveDayYear  | 14.12  | 0.00 |
| tblWoodstoves | WoodstoveWoodMass | 582.40 | 0.00 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

[illegible]

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**2.1 Overall Construction****Mitigated Construction**

|         | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e   |
|---------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Year    | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |           |           |        |        |        |
| 2019    | 0.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| 2021    | 0.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| 2039    | 0.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| 2040    | 0.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Maximum | 0.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|----------|----------------------------------------------|--------------------------------------------|
|         |            | Highest  |                                              |                                            |

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**2.2 Overall Operational****Unmitigated Operational**

|              | ROG            | NOx            | CO             | SO2           | Fugitive PM10  | Exhaust PM10  | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total    | Bio- CO2          | NBio- CO2          | Total CO2          | CH4             | N2O           | CO2e               |
|--------------|----------------|----------------|----------------|---------------|----------------|---------------|----------------|----------------|---------------|----------------|-------------------|--------------------|--------------------|-----------------|---------------|--------------------|
| Category     | tons/yr        |                |                |               |                |               |                |                |               |                | MT/yr             |                    |                    |                 |               |                    |
| Area         | 31.1082        | 2.2063         | 26.5654        | 0.0136        |                | 0.2973        | 0.2973         |                | 0.2973        | 0.2973         | 0.0000            | 2,254.0564         | 2,254.0564         | 0.0832          | 0.0406        | 2,268.2199         |
| Energy       | 0.8228         | 7.3909         | 5.6325         | 0.0449        |                | 0.5685        | 0.5685         |                | 0.5685        | 0.5685         | 0.0000            | 17,211.0144        | 17,211.0144        | 1.0734          | 0.3391        | 17,338.8891        |
| Mobile       | 5.1476         | 23.2465        | 64.4359        | 0.3105        | 35.1319        | 0.2228        | 35.3547        | 9.4508         | 0.2077        | 9.6585         | 0.0000            | 28,792.2342        | 28,792.2342        | 1.0847          | 0.0000        | 28,819.3523        |
| Waste        |                |                |                |               |                | 0.0000        | 0.0000         |                | 0.0000        | 0.0000         | 1,850.8691        | 0.0000             | 1,850.8691         | 109.3832        | 0.0000        | 4,585.4498         |
| Water        |                |                |                |               |                | 0.0000        | 0.0000         |                | 0.0000        | 0.0000         | 99.3866           | 277.2090           | 376.5956           | 10.2360         | 0.2468        | 706.0520           |
| <b>Total</b> | <b>37.0785</b> | <b>32.8437</b> | <b>96.6339</b> | <b>0.3689</b> | <b>35.1319</b> | <b>1.0885</b> | <b>36.2204</b> | <b>9.4508</b>  | <b>1.0734</b> | <b>10.5242</b> | <b>1,950.2557</b> | <b>48,534.5140</b> | <b>50,484.7697</b> | <b>121.8605</b> | <b>0.6264</b> | <b>53,717.9630</b> |

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## 2.2 Overall Operational

**Mitigated Operational**

|          | ROG     | NOx     | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2   | NBio- CO2   | Total CO2   | CH4      | N2O    | CO2e        |
|----------|---------|---------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|------------|-------------|-------------|----------|--------|-------------|
| Category | tons/yr |         |         |        |               |              |            |                |               |             | MT/yr      |             |             |          |        |             |
| Area     | 31.1082 | 2.2063  | 26.5654 | 0.0136 |               | 0.2973       | 0.2973     |                | 0.2973        | 0.2973      | 0.0000     | 2,254.0564  | 2,254.0564  | 0.0832   | 0.0406 | 2,268.2199  |
| Energy   | 0.8228  | 7.3909  | 5.6325  | 0.0449 |               | 0.5685       | 0.5685     |                | 0.5685        | 0.5685      | 0.0000     | 17,211.0144 | 17,211.0144 | 1.0734   | 0.3391 | 17,338.8891 |
| Mobile   | 5.1476  | 23.2465 | 64.4359 | 0.3105 | 35.1319       | 0.2228       | 35.3547    | 9.4508         | 0.2077        | 9.6585      | 0.0000     | 28,792.2342 | 28,792.2342 | 1.0847   | 0.0000 | 28,819.3523 |
| Waste    |         |         |         |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 1,850.8691 | 0.0000      | 1,850.8691  | 109.3832 | 0.0000 | 4,585.4498  |
| Water    |         |         |         |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 99.3866    | 277.2090    | 376.5956    | 10.2360  | 0.2468 | 706.0520    |
| Total    | 37.0785 | 32.8437 | 96.6339 | 0.3689 | 35.1319       | 1.0885       | 36.2204    | 9.4508         | 1.0734        | 10.5242     | 1,950.2557 | 48,534.5140 | 50,484.7697 | 121.8605 | 0.6264 | 53,717.9630 |

[illegible]

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

**2.3 Vegetation****Vegetation**

|           |                |
|-----------|----------------|
|           | CO2e           |
| Category  | MT             |
| New Trees | 3,670.000<br>0 |
| Total     | 3,670.000<br>0 |

**3.0 Construction Detail****Construction Phase**

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date   | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1            | Demolition            | Demolition            | 1/1/2018   | 12/31/2017 | 5             | 0        |                   |
| 2            | Site Preparation      | Site Preparation      | 2/23/2019  | 2/22/2019  | 5             | 0        |                   |
| 3            | Grading               | Grading               | 11/2/2019  | 11/1/2019  | 5             | 0        |                   |
| 4            | Building Construction | Building Construction | 8/14/2021  | 8/13/2021  | 5             | 0        |                   |
| 5            | Paving                | Paving                | 6/11/2039  | 6/10/2039  | 5             | 0        |                   |
| 6            | Architectural Coating | Architectural Coating | 9/15/2040  | 9/14/2040  | 5             | 0        |                   |

**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 1937.5****Acres of Paving: 58.3**

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

**Residential Indoor: 6,994,350; Residential Outdoor: 2,331,450; Non-Residential Indoor: 8,073,749; Non-Residential Outdoor: 2,691,250; Striped Parking Area: 289,440 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name            | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Demolition            | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |
| Demolition            | Excavators                | 3      | 8.00        | 158         | 0.38        |
| Demolition            | Rubber Tired Dozers       | 2      | 8.00        | 247         | 0.40        |
| Site Preparation      | Rubber Tired Dozers       | 3      | 8.00        | 247         | 0.40        |
| Site Preparation      | Tractors/Loaders/Backhoes | 4      | 8.00        | 97          | 0.37        |
| Grading               | Excavators                | 2      | 8.00        | 158         | 0.38        |
| Grading               | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Grading               | Rubber Tired Dozers       | 1      | 8.00        | 247         | 0.40        |
| Grading               | Scrapers                  | 2      | 8.00        | 367         | 0.48        |
| Grading               | Tractors/Loaders/Backhoes | 2      | 8.00        | 97          | 0.37        |
| Building Construction | Cranes                    | 1      | 7.00        | 231         | 0.29        |
| Building Construction | Forklifts                 | 3      | 8.00        | 89          | 0.20        |
| Building Construction | Generator Sets            | 1      | 8.00        | 84          | 0.74        |
| Building Construction | Tractors/Loaders/Backhoes | 3      | 7.00        | 97          | 0.37        |
| Building Construction | Welders                   | 1      | 8.00        | 46          | 0.45        |
| Paving                | Pavers                    | 2      | 8.00        | 130         | 0.42        |
| Paving                | Paving Equipment          | 2      | 8.00        | 132         | 0.36        |
| Paving                | Rollers                   | 2      | 8.00        | 80          | 0.38        |
| Architectural Coating | Air Compressors           | 1      | 6.00        | 78          | 0.48        |

**Trips and VMT**

Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition            | 6                       | 15.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 7                       | 18.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Grading               | 8                       | 20.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 9                       | 10,887.00          | 3,839.00           | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Paving                | 6                       | 15.00              | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 1                       | 2,177.00           | 0.00               | 0.00                | 10.80              | 7.30               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

### 3.1 Mitigation Measures Construction

### 3.3 Site Preparation - 2019

### Unmitigated Construction On-Site

[illegible]



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### 3.3 Site Preparation - 2019

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

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### 3.3 Site Preparation - 2019

### Mitigated Construction Off-Site

[illegible]

### 3.4 Grading - 2019

### Unmitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

### 3.4 Grading - 2019

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

### 3.4 Grading - 2019

### Mitigated Construction Off-Site

[illegible]

### 3.5 Building Construction - 2021

### Unmitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

### 3.5 Building Construction - 2021

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

### 3.5 Building Construction - 2021

### Mitigated Construction Off-Site

[illegible]

### 3.6 Paving - 2039

### Unmitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

### 3.6 Paving - 2039

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

### 3.6 Paving - 2039

### Mitigated Construction Off-Site

[illegible]

### 3.7 Architectural Coating - 2040

### Unmitigated Construction On-Site

[illegible]



Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

### 3.7 Architectural Coating - 2040

### Unmitigated Construction Off-Site

[illegible]

### Mitigated Construction On-Site

[illegible]

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

**3.7 Architectural Coating - 2040****Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b>  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|             | ROG     | NOx     | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2       | Total CO2       | CH4    | N2O    | CO2e            |
|-------------|---------|---------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------------|-----------------|--------|--------|-----------------|
| Category    | tons/yr |         |         |        |               |              |            |                |               |             | MT/yr    |                 |                 |        |        |                 |
| Mitigated   | 5.1476  | 23.2465 | 64.4359 | 0.3105 | 35.1319       | 0.2228       | 35.3547    | 9.4508         | 0.2077        | 9.6585      | 0.0000   | 28,792.23<br>42 | 28,792.23<br>42 | 1.0847 | 0.0000 | 28,819.35<br>23 |
| Unmitigated | 5.1476  | 23.2465 | 64.4359 | 0.3105 | 35.1319       | 0.2228       | 35.3547    | 9.4508         | 0.2077        | 9.6585      | 0.0000   | 28,792.23<br>42 | 28,792.23<br>42 | 1.0847 | 0.0000 | 28,819.35<br>23 |

## 4.2 Trip Summary Information

| Land Use                     | Average Daily Trip Rate |           |           | Unmitigated | Mitigated  |
|------------------------------|-------------------------|-----------|-----------|-------------|------------|
|                              | Weekday                 | Saturday  | Sunday    | Annual VMT  | Annual VMT |
| Apartments Mid Rise          | 9,361.59                | 8,995.57  | 8249.46   | 32,402,332  | 32,402,332 |
| City Park                    | 191.81                  | 2,308.80  | 1698.87   | 2,114,288   | 2,114,288  |
| Enclosed Parking Structure   | 0.00                    | 0.00      | 0.00      |             |            |
| General Office Building      | 1,146.36                | 255.67    | 109.13    | 2,905,488   | 2,905,488  |
| Health Club                  | 671.07                  | 425.30    | 544.72    | 1,437,650   | 1,437,650  |
| High School                  | 209.09                  | 74.59     | 30.57     | 653,151     | 653,151    |
| Hotel                        | 582.73                  | 584.15    | 424.39    | 1,442,425   | 1,442,425  |
| Junior College (2Yr)         | 200.53                  | 68.47     | 0.00      | 513,112     | 513,112    |
| Junior High School           | 668.19                  | 0.00      | 0.00      | 1,615,558   | 1,615,558  |
| Parking Lot                  | 0.00                    | 0.00      | 0.00      |             |            |
| Regional Shopping Center     | 1,740.34                | 2,036.64  | 1028.71   | 3,963,118   | 3,963,118  |
| Research & Development       | 13,705.92               | 3,211.00  | 1875.90   | 36,795,846  | 36,795,846 |
| Strip Mall                   | 5,437.16                | 5,157.45  | 2506.34   | 10,313,502  | 10,313,502 |
| Unenclosed Parking Structure | 0.00                    | 0.00      | 0.00      |             |            |
| Total                        | 33,914.77               | 23,117.65 | 16,468.09 | 94,156,470  | 94,156,470 |

## 4.3 Trip Type Information

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

| Land Use                     | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                              | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Apartments Mid Rise          | 14.90      | 9.50       | 9.10        | 31.00      | 15.00      | 54.00       | 86             | 11       | 3       |
| City Park                    | 14.90      | 9.50       | 9.10        | 33.00      | 48.00      | 19.00       | 66             | 28       | 6       |
| Enclosed Parking Structure   | 14.90      | 9.50       | 9.10        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| General Office Building      | 14.90      | 9.50       | 9.10        | 33.00      | 48.00      | 19.00       | 77             | 19       | 4       |
| Health Club                  | 14.90      | 9.50       | 9.10        | 16.90      | 64.10      | 19.00       | 52             | 39       | 9       |
| High School                  | 14.90      | 9.50       | 9.10        | 77.80      | 17.20      | 5.00        | 75             | 19       | 6       |
| Hotel                        | 14.90      | 9.50       | 9.10        | 19.40      | 61.60      | 19.00       | 58             | 38       | 4       |
| Junior College (2Yr)         | 14.90      | 9.50       | 9.10        | 6.40       | 88.60      | 5.00        | 92             | 7        | 1       |
| Junior High School           | 14.90      | 9.50       | 9.10        | 72.80      | 22.20      | 5.00        | 63             | 25       | 12      |
| Parking Lot                  | 14.90      | 9.50       | 9.10        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Regional Shopping Center     | 14.90      | 9.50       | 9.10        | 16.30      | 64.70      | 19.00       | 54             | 35       | 11      |
| Research & Development       | 14.90      | 9.50       | 9.10        | 33.00      | 48.00      | 19.00       | 82             | 15       | 3       |
| Strip Mall                   | 14.90      | 9.50       | 9.10        | 16.60      | 64.40      | 19.00       | 45             | 40       | 15      |
| Unenclosed Parking Structure | 14.90      | 9.50       | 9.10        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |

## 4.4 Fleet Mix

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

| Land Use                     | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Apartments Mid Rise          | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| City Park                    | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Enclosed Parking Structure   | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| General Office Building      | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Health Club                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| High School                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Hotel                        | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Junior College (2Yr)         | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Junior High School           | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Parking Lot                  | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Regional Shopping Center     | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Research & Development       | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Strip Mall                   | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |
| Unenclosed Parking Structure | 0.601538 | 0.036054 | 0.193096 | 0.092568 | 0.012113 | 0.005314 | 0.035718 | 0.009816 | 0.004313 | 0.002228 | 0.005671 | 0.000957 | 0.000615 |

## 5.0 Energy Detail

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Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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|                         | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------------------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category                | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |            |            |        |        |            |
| Electricity Mitigated   |         |        |        |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 9,068.5275 | 9,068.5275 | 0.9173 | 0.1898 | 9,148.0155 |
| Electricity Unmitigated |         |        |        |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 9,068.5275 | 9,068.5275 | 0.9173 | 0.1898 | 9,148.0155 |
| NaturalGas Mitigated    | 0.8228  | 7.3909 | 5.6325 | 0.0449 |               | 0.5685       | 0.5685     |                | 0.5685        | 0.5685      | 0.0000   | 8,142.4869 | 8,142.4869 | 0.1561 | 0.1493 | 8,190.8736 |
| NaturalGas Unmitigated  | 0.8228  | 7.3909 | 5.6325 | 0.0449 |               | 0.5685       | 0.5685     |                | 0.5685        | 0.5685      | 0.0000   | 8,142.4869 | 8,142.4869 | 0.1561 | 0.1493 | 8,190.8736 |

## 5.2 Energy by Land Use - NaturalGas

Unmitigated

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|                              | Natural Gas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|------------------------------|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Land Use                     | kBTU/yr         | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Apartments Mid Rise          | 3.01549e+007    | 0.1626        | 1.3895        | 0.5913        | 8.8700e-003   |               | 0.1123        | 0.1123        |                | 0.1123        | 0.1123        | 0.0000        | 1,609.1806        | 1,609.1806        | 0.0308        | 0.0295        | 1,618.7431        |
| City Park                    | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Enclosed Parking Structure   | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| General Office Building      | 4.92915e+006    | 0.0266        | 0.2416        | 0.2030        | 1.4500e-003   |               | 0.0184        | 0.0184        |                | 0.0184        | 0.0184        | 0.0000        | 263.0382          | 263.0382          | 5.0400e-003   | 4.8200e-003   | 264.6013          |
| Health Club                  | 1.2375e+006     | 6.6700e-003   | 0.0607        | 0.0510        | 3.6000e-004   |               | 4.6100e-003   | 4.6100e-003   |                | 4.6100e-003   | 4.6100e-003   | 0.0000        | 66.0377           | 66.0377           | 1.2700e-003   | 1.2100e-003   | 66.4301           |
| High School                  | 458805          | 2.4700e-003   | 0.0225        | 0.0189        | 1.3000e-004   |               | 1.7100e-003   | 1.7100e-003   |                | 1.7100e-003   | 1.7100e-003   | 0.0000        | 24.4836           | 24.4836           | 4.7000e-004   | 4.5000e-004   | 24.6291           |
| Hotel                        | 4.3812e+006     | 0.0236        | 0.2148        | 0.1804        | 1.2900e-003   |               | 0.0163        | 0.0163        |                | 0.0163        | 0.0163        | 0.0000        | 233.7975          | 233.7975          | 4.4800e-003   | 4.2900e-003   | 235.1869          |
| Junior College (2Yr)         | 1.27026e+006    | 6.8500e-003   | 0.0623        | 0.0523        | 3.7000e-004   |               | 4.7300e-003   | 4.7300e-003   |                | 4.7300e-003   | 4.7300e-003   | 0.0000        | 67.7857           | 67.7857           | 1.3000e-003   | 1.2400e-003   | 68.1885           |
| Junior High School           | 5.68215e+006    | 0.0306        | 0.2785        | 0.2340        | 1.6700e-003   |               | 0.0212        | 0.0212        |                | 0.0212        | 0.0212        | 0.0000        | 303.2212          | 303.2212          | 5.8100e-003   | 5.5600e-003   | 305.0231          |
| Parking Lot                  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Regional Shopping Center     | 460000          | 2.4800e-003   | 0.0226        | 0.0189        | 1.4000e-004   |               | 1.7100e-003   | 1.7100e-003   |                | 1.7100e-003   | 1.7100e-003   | 0.0000        | 24.5474           | 24.5474           | 4.7000e-004   | 4.5000e-004   | 24.6932           |
| Research & Development       | 1.02626e+008    | 0.5534        | 5.0307        | 4.2258        | 0.0302        |               | 0.3823        | 0.3823        |                | 0.3823        | 0.3823        | 0.0000        | 5,476.5075        | 5,476.5075        | 0.1050        | 0.1004        | 5,509.0517        |
| Strip Mall                   | 1.3846e+006     | 7.4700e-003   | 0.0679        | 0.0570        | 4.1000e-004   |               | 5.1600e-003   | 5.1600e-003   |                | 5.1600e-003   | 5.1600e-003   | 0.0000        | 73.8875           | 73.8875           | 1.4200e-003   | 1.3500e-003   | 74.3266           |
| Unenclosed Parking Structure | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| <b>Total</b>                 |                 | <b>0.8228</b> | <b>7.3909</b> | <b>5.6325</b> | <b>0.0449</b> |               | <b>0.5684</b> | <b>0.5684</b> |                | <b>0.5684</b> | <b>0.5684</b> | <b>0.0000</b> | <b>8,142.4869</b> | <b>8,142.4869</b> | <b>0.1561</b> | <b>0.1493</b> | <b>8,190.8736</b> |

## 5.2 Energy by Land Use - Natural Gas

Mitigated

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|                              | Natural Gas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|------------------------------|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Land Use                     | kBTU/yr         | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Apartments Mid Rise          | 3.01549e+007    | 0.1626        | 1.3895        | 0.5913        | 8.8700e-003   |               | 0.1123        | 0.1123        |                | 0.1123        | 0.1123        | 0.0000        | 1,609.1806        | 1,609.1806        | 0.0308        | 0.0295        | 1,618.7431        |
| City Park                    | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Enclosed Parking Structure   | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| General Office Building      | 4.92915e+006    | 0.0266        | 0.2416        | 0.2030        | 1.4500e-003   |               | 0.0184        | 0.0184        |                | 0.0184        | 0.0184        | 0.0000        | 263.0382          | 263.0382          | 5.0400e-003   | 4.8200e-003   | 264.6013          |
| Health Club                  | 1.2375e+006     | 6.6700e-003   | 0.0607        | 0.0510        | 3.6000e-004   |               | 4.6100e-003   | 4.6100e-003   |                | 4.6100e-003   | 4.6100e-003   | 0.0000        | 66.0377           | 66.0377           | 1.2700e-003   | 1.2100e-003   | 66.4301           |
| High School                  | 458805          | 2.4700e-003   | 0.0225        | 0.0189        | 1.3000e-004   |               | 1.7100e-003   | 1.7100e-003   |                | 1.7100e-003   | 1.7100e-003   | 0.0000        | 24.4836           | 24.4836           | 4.7000e-004   | 4.5000e-004   | 24.6291           |
| Hotel                        | 4.3812e+006     | 0.0236        | 0.2148        | 0.1804        | 1.2900e-003   |               | 0.0163        | 0.0163        |                | 0.0163        | 0.0163        | 0.0000        | 233.7975          | 233.7975          | 4.4800e-003   | 4.2900e-003   | 235.1869          |
| Junior College (2Yr)         | 1.27026e+006    | 6.8500e-003   | 0.0623        | 0.0523        | 3.7000e-004   |               | 4.7300e-003   | 4.7300e-003   |                | 4.7300e-003   | 4.7300e-003   | 0.0000        | 67.7857           | 67.7857           | 1.3000e-003   | 1.2400e-003   | 68.1885           |
| Junior High School           | 5.68215e+006    | 0.0306        | 0.2785        | 0.2340        | 1.6700e-003   |               | 0.0212        | 0.0212        |                | 0.0212        | 0.0212        | 0.0000        | 303.2212          | 303.2212          | 5.8100e-003   | 5.5600e-003   | 305.0231          |
| Parking Lot                  | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Regional Shopping Center     | 460000          | 2.4800e-003   | 0.0226        | 0.0189        | 1.4000e-004   |               | 1.7100e-003   | 1.7100e-003   |                | 1.7100e-003   | 1.7100e-003   | 0.0000        | 24.5474           | 24.5474           | 4.7000e-004   | 4.5000e-004   | 24.6932           |
| Research & Development       | 1.02626e+008    | 0.5534        | 5.0307        | 4.2258        | 0.0302        |               | 0.3823        | 0.3823        |                | 0.3823        | 0.3823        | 0.0000        | 5,476.5075        | 5,476.5075        | 0.1050        | 0.1004        | 5,509.0517        |
| Strip Mall                   | 1.3846e+006     | 7.4700e-003   | 0.0679        | 0.0570        | 4.1000e-004   |               | 5.1600e-003   | 5.1600e-003   |                | 5.1600e-003   | 5.1600e-003   | 0.0000        | 73.8875           | 73.8875           | 1.4200e-003   | 1.3500e-003   | 74.3266           |
| Unenclosed Parking Structure | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| <b>Total</b>                 |                 | <b>0.8228</b> | <b>7.3909</b> | <b>5.6325</b> | <b>0.0449</b> |               | <b>0.5684</b> | <b>0.5684</b> |                | <b>0.5684</b> | <b>0.5684</b> | <b>0.0000</b> | <b>8,142.4869</b> | <b>8,142.4869</b> | <b>0.1561</b> | <b>0.1493</b> | <b>8,190.8736</b> |

## 5.3 Energy by Land Use - Electricity

Unmitigated



## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|                              | Electricity Use | Total CO2         | CH4           | N2O           | CO2e              |
|------------------------------|-----------------|-------------------|---------------|---------------|-------------------|
| Land Use                     | kWh/yr          | MT/yr             |               |               |                   |
| Apartments Mid Rise          | 1.45828e+007    | 1,896.4132        | 0.1918        | 0.0397        | 1,913.0357        |
| City Park                    | 0               | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Enclosed Parking Structure   | 7.83367e+006    | 1,018.7294        | 0.1031        | 0.0213        | 1,027.6588        |
| General Office Building      | 3.1824e+006     | 413.8550          | 0.0419        | 8.6600e-003   | 417.4825          |
| Health Club                  | 378000          | 49.1570           | 4.9700e-003   | 1.0300e-003   | 49.5879           |
| High School                  | 123685          | 16.0846           | 1.6300e-003   | 3.4000e-004   | 16.2256           |
| Hotel                        | 980400          | 127.4961          | 0.0129        | 2.6700e-003   | 128.6136          |
| Junior College (2Yr)         | 379591          | 49.3639           | 4.9900e-003   | 1.0300e-003   | 49.7966           |
| Junior High School           | 1.5318e+006     | 199.2028          | 0.0202        | 4.1700e-003   | 200.9489          |
| Parking Lot                  | 208180          | 27.0728           | 2.7400e-003   | 5.7000e-004   | 27.3101           |
| Regional Shopping Center     | 1.048e+006      | 136.2871          | 0.0138        | 2.8500e-003   | 137.4817          |
| Research & Development       | 3.13475e+007    | 4,076.5887        | 0.4124        | 0.0853        | 4,112.3211        |
| Strip Mall                   | 3.15448e+006    | 410.2241          | 0.0415        | 8.5900e-003   | 413.8199          |
| Unenclosed Parking Structure | 4.9833e+006     | 648.0529          | 0.0656        | 0.0136        | 653.7333          |
| <b>Total</b>                 |                 | <b>9,068.5275</b> | <b>0.9173</b> | <b>0.1898</b> | <b>9,148.0155</b> |

## 5.3 Energy by Land Use - Electricity

Mitigated

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|                              | Electricity Use | Total CO2         | CH4           | N2O           | CO2e              |
|------------------------------|-----------------|-------------------|---------------|---------------|-------------------|
| Land Use                     | kWh/yr          | MT/yr             |               |               |                   |
| Apartments Mid Rise          | 1.45828e+007    | 1,896.4132        | 0.1918        | 0.0397        | 1,913.0357        |
| City Park                    | 0               | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Enclosed Parking Structure   | 7.83367e+006    | 1,018.7294        | 0.1031        | 0.0213        | 1,027.6588        |
| General Office Building      | 3.1824e+006     | 413.8550          | 0.0419        | 8.6600e-003   | 417.4825          |
| Health Club                  | 378000          | 49.1570           | 4.9700e-003   | 1.0300e-003   | 49.5879           |
| High School                  | 123685          | 16.0846           | 1.6300e-003   | 3.4000e-004   | 16.2256           |
| Hotel                        | 980400          | 127.4961          | 0.0129        | 2.6700e-003   | 128.6136          |
| Junior College (2Yr)         | 379591          | 49.3639           | 4.9900e-003   | 1.0300e-003   | 49.7966           |
| Junior High School           | 1.5318e+006     | 199.2028          | 0.0202        | 4.1700e-003   | 200.9489          |
| Parking Lot                  | 208180          | 27.0728           | 2.7400e-003   | 5.7000e-004   | 27.3101           |
| Regional Shopping Center     | 1.048e+006      | 136.2871          | 0.0138        | 2.8500e-003   | 137.4817          |
| Research & Development       | 3.13475e+007    | 4,076.5887        | 0.4124        | 0.0853        | 4,112.3211        |
| Strip Mall                   | 3.15448e+006    | 410.2241          | 0.0415        | 8.5900e-003   | 413.8199          |
| Unenclosed Parking Structure | 4.9833e+006     | 648.0529          | 0.0656        | 0.0136        | 653.7333          |
| <b>Total</b>                 |                 | <b>9,068.5275</b> | <b>0.9173</b> | <b>0.1898</b> | <b>9,148.0155</b> |

## 6.0 Area Detail

## 6.1 Mitigation Measures Area

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|             | ROG     | NOx    | CO      | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------|---------|--------|---------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category    | tons/yr |        |         |        |               |              |            |                |               |             | MT/yr    |            |            |        |        |            |
| Mitigated   | 31.1082 | 2.2063 | 26.5654 | 0.0136 |               | 0.2973       | 0.2973     |                | 0.2973        | 0.2973      | 0.0000   | 2,254.0564 | 2,254.0564 | 0.0832 | 0.0406 | 2,268.2199 |
| Unmitigated | 31.1082 | 2.2063 | 26.5654 | 0.0136 |               | 0.2973       | 0.2973     |                | 0.2973        | 0.2973      | 0.0000   | 2,254.0564 | 2,254.0564 | 0.0832 | 0.0406 | 2,268.2199 |

## 6.2 Area by SubCategory

Unmitigated

|                       | ROG            | NOx           | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|-----------------------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| SubCategory           | tons/yr        |               |                |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Architectural Coating | 5.3387         |               |                |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Consumer Products     | 24.7650        |               |                |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Hearth                | 0.2235         | 1.9099        | 0.8127         | 0.0122        |               | 0.1544        | 0.1544        |                | 0.1544        | 0.1544        | 0.0000        | 2,211.8231        | 2,211.8231        | 0.0424        | 0.0406        | 2,224.9669        |
| Landscaping           | 0.7810         | 0.2964        | 25.7527        | 1.3700e-003   |               | 0.1428        | 0.1428        |                | 0.1428        | 0.1428        | 0.0000        | 42.2332           | 42.2332           | 0.0408        | 0.0000        | 43.2530           |
| <b>Total</b>          | <b>31.1082</b> | <b>2.2063</b> | <b>26.5654</b> | <b>0.0136</b> |               | <b>0.2973</b> | <b>0.2973</b> |                | <b>0.2973</b> | <b>0.2973</b> | <b>0.0000</b> | <b>2,254.0563</b> | <b>2,254.0563</b> | <b>0.0832</b> | <b>0.0406</b> | <b>2,268.2199</b> |

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

**6.2 Area by SubCategory****Mitigated**

|                       | ROG            | NOx           | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|-----------------------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| SubCategory           | tons/yr        |               |                |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Architectural Coating | 5.3387         |               |                |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Consumer Products     | 24.7650        |               |                |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Hearth                | 0.2235         | 1.9099        | 0.8127         | 0.0122        |               | 0.1544        | 0.1544        |                | 0.1544        | 0.1544        | 0.0000        | 2,211.8231        | 2,211.8231        | 0.0424        | 0.0406        | 2,224.9669        |
| Landscaping           | 0.7810         | 0.2964        | 25.7527        | 1.3700e-003   |               | 0.1428        | 0.1428        |                | 0.1428        | 0.1428        | 0.0000        | 42.2332           | 42.2332           | 0.0408        | 0.0000        | 43.2530           |
| <b>Total</b>          | <b>31.1082</b> | <b>2.2063</b> | <b>26.5654</b> | <b>0.0136</b> |               | <b>0.2973</b> | <b>0.2973</b> |                | <b>0.2973</b> | <b>0.2973</b> | <b>0.0000</b> | <b>2,254.0563</b> | <b>2,254.0563</b> | <b>0.0832</b> | <b>0.0406</b> | <b>2,268.2199</b> |

**7.0 Water Detail****7.1 Mitigation Measures Water**

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|             | Total CO2 | CH4     | N2O    | CO2e     |
|-------------|-----------|---------|--------|----------|
| Category    | MT/yr     |         |        |          |
| Mitigated   | 376.5956  | 10.2360 | 0.2468 | 706.0520 |
| Unmitigated | 376.5956  | 10.2360 | 0.2468 | 706.0520 |

**7.2 Water by Land Use****Unmitigated**

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|                              | Indoor/Outdoor Use | Total CO2       | CH4            | N2O           | CO2e            |
|------------------------------|--------------------|-----------------|----------------|---------------|-----------------|
| Land Use                     | Mgal               | MT/yr           |                |               |                 |
| Apartments Mid Rise          | 64.1933 / 40.4694  | 83.9567         | 2.0982         | 0.0507        | 151.5259        |
| City Park                    | 0 / 57.3323        | 26.0952         | 2.6400e-003    | 5.5000e-004   | 26.3239         |
| Enclosed Parking Structure   | 0 / 0              | 0.0000          | 0.0000         | 0.0000        | 0.0000          |
| General Office Building      | 4.526 / 2.774      | 5.8833          | 0.1479         | 3.5800e-003   | 10.6470         |
| Health Club                  | 2.263 / 1.387      | 2.9417          | 0.0740         | 1.7900e-003   | 5.3235          |
| High School                  | 1.3215 / 3.3981    | 2.8958          | 0.0433         | 1.0700e-003   | 4.2971          |
| Hotel                        | 4.43923 / 0.493325 | 4.7567          | 0.1450         | 3.4900e-003   | 9.4202          |
| Junior College (2Yr)         | 0.8564 / 1.3396    | 1.4841          | 0.0280         | 6.8000e-004   | 2.3887          |
| Junior High School           | 2.45309 / 6.30881  | 5.3759          | 0.0804         | 1.9800e-003   | 7.9770          |
| Parking Lot                  | 0 / 0              | 0.0000          | 0.0000         | 0.0000        | 0.0000          |
| Regional Shopping Center     | 7.4073 / 4.5399    | 9.6287          | 0.2421         | 5.8500e-003   | 17.4250         |
| Research & Development       | 214.913 / 0        | 219.4106        | 7.0182         | 0.1685        | 445.0855        |
| Strip Mall                   | 10.8987 / 6.67974  | 14.1671         | 0.3562         | 8.6100e-003   | 25.6381         |
| Unenclosed Parking Structure | 0 / 0              | 0.0000          | 0.0000         | 0.0000        | 0.0000          |
| <b>Total</b>                 |                    | <b>376.5956</b> | <b>10.2360</b> | <b>0.2468</b> | <b>706.0520</b> |

## 7.2 Water by Land Use

Mitigated

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|                              | Indoor/Outdoor Use | Total CO2       | CH4            | N2O           | CO2e            |
|------------------------------|--------------------|-----------------|----------------|---------------|-----------------|
| Land Use                     | Mgal               | MT/yr           |                |               |                 |
| Apartments Mid Rise          | 64.1933 / 40.4694  | 83.9567         | 2.0982         | 0.0507        | 151.5259        |
| City Park                    | 0 / 57.3323        | 26.0952         | 2.6400e-003    | 5.5000e-004   | 26.3239         |
| Enclosed Parking Structure   | 0 / 0              | 0.0000          | 0.0000         | 0.0000        | 0.0000          |
| General Office Building      | 4.526 / 2.774      | 5.8833          | 0.1479         | 3.5800e-003   | 10.6470         |
| Health Club                  | 2.263 / 1.387      | 2.9417          | 0.0740         | 1.7900e-003   | 5.3235          |
| High School                  | 1.3215 / 3.3981    | 2.8958          | 0.0433         | 1.0700e-003   | 4.2971          |
| Hotel                        | 4.43923 / 0.493325 | 4.7567          | 0.1450         | 3.4900e-003   | 9.4202          |
| Junior College (2Yr)         | 0.8564 / 1.3396    | 1.4841          | 0.0280         | 6.8000e-004   | 2.3887          |
| Junior High School           | 2.45309 / 6.30881  | 5.3759          | 0.0804         | 1.9800e-003   | 7.9770          |
| Parking Lot                  | 0 / 0              | 0.0000          | 0.0000         | 0.0000        | 0.0000          |
| Regional Shopping Center     | 7.4073 / 4.5399    | 9.6287          | 0.2421         | 5.8500e-003   | 17.4250         |
| Research & Development       | 214.913 / 0        | 219.4106        | 7.0182         | 0.1685        | 445.0855        |
| Strip Mall                   | 10.8987 / 6.67974  | 14.1671         | 0.3562         | 8.6100e-003   | 25.6381         |
| Unenclosed Parking Structure | 0 / 0              | 0.0000          | 0.0000         | 0.0000        | 0.0000          |
| <b>Total</b>                 |                    | <b>376.5956</b> | <b>10.2360</b> | <b>0.2468</b> | <b>706.0520</b> |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

**Category/Year**

|             | Total CO2      | CH4      | N2O    | CO2e           |
|-------------|----------------|----------|--------|----------------|
|             | MT/yr          |          |        |                |
| Mitigated   | 1,850.869<br>1 | 109.3832 | 0.0000 | 4,585.449<br>8 |
| Unmitigated | 1,850.869<br>1 | 109.3832 | 0.0000 | 4,585.449<br>8 |

**8.2 Waste by Land Use****Unmitigated**



## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|                              | Waste<br>Disposed | Total CO2         | CH4             | N2O           | CO2e              |
|------------------------------|-------------------|-------------------|-----------------|---------------|-------------------|
| Land Use                     | tons              | MT/yr             |                 |               |                   |
| Apartments Mid Rise          | 3379.74           | 686.0567          | 40.5448         | 0.0000        | 1,699.6764        |
| City Park                    | 22.44             | 4.5551            | 0.2692          | 0.0000        | 11.2851           |
| Enclosed Parking Structure   | 0                 | 0.0000            | 0.0000          | 0.0000        | 0.0000            |
| General Office Building      | 238.43            | 48.3991           | 2.8603          | 0.0000        | 119.9068          |
| Health Club                  | 46.75             | 9.4898            | 0.5608          | 0.0000        | 23.5107           |
| High School                  | 54                | 10.9615           | 0.6478          | 0.0000        | 27.1567           |
| Hotel                        | 161               | 32.6816           | 1.9314          | 0.0000        | 80.9671           |
| Junior College (2Yr)         | 72                | 14.6154           | 0.8637          | 0.0000        | 36.2089           |
| Junior High School           | 182.16            | 36.9768           | 2.1853          | 0.0000        | 91.6085           |
| Parking Lot                  | 0                 | 0.0000            | 0.0000          | 0.0000        | 0.0000            |
| Regional Shopping Center     | 105               | 21.3141           | 1.2596          | 0.0000        | 52.8047           |
| Research & Development       | 4540.42           | 921.6637          | 54.4688         | 0.0000        | 2,283.3829        |
| Strip Mall                   | 316.05            | 64.1553           | 3.7915          | 0.0000        | 158.9420          |
| Unenclosed Parking Structure | 0                 | 0.0000            | 0.0000          | 0.0000        | 0.0000            |
| <b>Total</b>                 |                   | <b>1,850.8691</b> | <b>109.3832</b> | <b>0.0000</b> | <b>4,585.4498</b> |

**8.2 Waste by Land Use****Mitigated**

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|                              | Waste Disposed | Total CO2         | CH4             | N2O           | CO2e              |
|------------------------------|----------------|-------------------|-----------------|---------------|-------------------|
| Land Use                     | tons           | MT/yr             |                 |               |                   |
| Apartments Mid Rise          | 3379.74        | 686.0567          | 40.5448         | 0.0000        | 1,699.6764        |
| City Park                    | 22.44          | 4.5551            | 0.2692          | 0.0000        | 11.2851           |
| Enclosed Parking Structure   | 0              | 0.0000            | 0.0000          | 0.0000        | 0.0000            |
| General Office Building      | 238.43         | 48.3991           | 2.8603          | 0.0000        | 119.9068          |
| Health Club                  | 46.75          | 9.4898            | 0.5608          | 0.0000        | 23.5107           |
| High School                  | 54             | 10.9615           | 0.6478          | 0.0000        | 27.1567           |
| Hotel                        | 161            | 32.6816           | 1.9314          | 0.0000        | 80.9671           |
| Junior College (2Yr)         | 72             | 14.6154           | 0.8637          | 0.0000        | 36.2089           |
| Junior High School           | 182.16         | 36.9768           | 2.1853          | 0.0000        | 91.6085           |
| Parking Lot                  | 0              | 0.0000            | 0.0000          | 0.0000        | 0.0000            |
| Regional Shopping Center     | 105            | 21.3141           | 1.2596          | 0.0000        | 52.8047           |
| Research & Development       | 4540.42        | 921.6637          | 54.4688         | 0.0000        | 2,283.3829        |
| Strip Mall                   | 316.05         | 64.1553           | 3.7915          | 0.0000        | 158.9420          |
| Unenclosed Parking Structure | 0              | 0.0000            | 0.0000          | 0.0000        | 0.0000            |
| <b>Total</b>                 |                | <b>1,850.8691</b> | <b>109.3832</b> | <b>0.0000</b> | <b>4,585.4498</b> |

## 9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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## Hunters Point Shipyard Phase II - Operational - GHG Analysis - San Francisco County, Annual

|             | Total CO2      | CH4    | N2O    | CO2e           |
|-------------|----------------|--------|--------|----------------|
| Category    | MT             |        |        |                |
| Unmitigated | 3,670.000<br>0 | 0.0000 | 0.0000 | 3,670.000<br>0 |

**11.2 Net New Trees****Species Class**

|                | Number of<br>Trees | Total CO2              | CH4           | N2O           | CO2e                   |
|----------------|--------------------|------------------------|---------------|---------------|------------------------|
|                |                    | MT                     |               |               |                        |
| Mixed Hardwood | 5000               | 3,670.000<br>0         | 0.0000        | 0.0000        | 3,670.000<br>0         |
| <b>Total</b>   |                    | <b>3,670.000<br/>0</b> | <b>0.0000</b> | <b>0.0000</b> | <b>3,670.000<br/>0</b> |